United Nations S/2001/94

Security Council

Distr.: General
31 January 2001

Original: English

Letter dated 31 January 2001 from the Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the United Nations addressed to the President of the Security Council

As you will be aware, the Scottish Court sitting in the Netherlands today gave its verdict in the case against the two accused of the Lockerbie crime. The verdict of the Court was that Abdelbaset Ali Mohmed Al Megrahi was guilty and that Al Amin Khalifa Fhimah was not guilty. I enclose a copy of the Opinion of the Court on the case (see annex).

I should be grateful if you would have the text of this letter and attachment circulated as a document of the Security Council.

(*Signed*) Jeremy **Greenstock**

01-23558 (E) 080201

Annex to the letter dated 31 January 2001 from the Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the United Nations addressed to the President of the Security Council

IN THE HIGH COURT OF JUSTICIARY AT CAMP ZEIST

Lord Sutherland
Lord Coulsfield
Lord Maclean

Case No: 1475/99

OPINION OF THE COURT

delivered by LORD SUTHERLAND

in causa

HER MAJESTY'S ADVOCATE
v
ABDELBASET ALI MOHMED AL MEGRAHI and AL AMIN KHALIFA FHIMAH, Prisoners in the Prison of Zeist, Camp Zeist (Kamp van Zeist), The Netherlands

Accused

Act: **The Lord Advocate, AP Campbell QC, Advocate Depute; Turnbull QC, Advocate Depute; Lake and Armstrong; the Crown Agent.**

Alt: **Taylor QC; Burns QC; Beckett, McCourts, Solicitors, Edinburgh for the first accused.**
Keen QC; Davidson QC, Macleod, McGrigor Donald, Solicitors, Edinburgh for the second accused.

[1] At 1903 hours on 22 December 1988 PanAm flight 103 fell out of the sky. The 259 passengers and crew members who were on board and 11 residents of Lockerbie where the debris fell were killed. The Crown case is that the cause of the disaster was that an explosive device had been introduced into the hold of the aircraft by the two accused whether acting alone or in concert with each other and others. This device exploded when the aircraft was in Scottish air space thus causing the aircraft to disintegrate. In these circumstances it was originally contended that the accused were guilty of conspiracy to murder, alternatively murder, alternatively a

contravention of section 2(1) and (5) of the Aviation Security Act 1982. At the conclusion of the Crown's submissions, however, the libel was restricted to the charge of murder.

[2] It is not disputed, and was amply proved, that the cause of the disaster was indeed the explosion of a device within the aircraft. Nor is it disputed that the person or persons who were responsible for the deliberate introduction of the explosive device would be guilty of the crime of murder. The matter at issue in this trial therefore is whether or not the Crown have proved beyond reasonable doubt that one or other or both of the accused was responsible, actor or art and part, for the deliberate introduction of the device.

[3] After the disaster a massive police operation was mounted to recover as much as possible of the debris in order to ascertain the cause of the crash. Tens of thousands of items were recovered, sifted and recorded, and any that appeared to be of particular interest as indicating a possible cause of the explosion were examined by the relevant specialists.

[4] All the parts of the aircraft that were recovered were taken initially to a hangar in Longtown where they were examined by inspectors of the Air Accidents Investigation Board ("AAIB"). Subsequently the relevant part of the aircraft was reconstructed as far as possible at Farnborough. It was found that the majority of the fractures in the skin of the fuselage were overload fractures consistent with the type of damage to be expected from the airborne break-up of an aircraft structure. There was however an area where the fracture failure characteristics were not typical. This area

was on the port side of the lower fuselage in the forward cargo bay area. The basic structure of the aircraft consisted of substantial vertical frames set 20" apart and horizontal stringers about 10" apart, with the fuselage skin being attached to the outside. A small region of the structure bounded approximately by frames 700 and 720 and stringers 38 left and 40 left, thus approximately 20" square, had been completely shattered. The fractures around the shattered area were granular in character, whereas further away the fractures were typical tearing fractures. Around the shattered area there were signs of pitting and sooting. The skin panels in the area immediately surrounding the shattered area had been bent and torn in a starburst pattern and were petalled outwards. From the nature of this damage the conclusion was reached, and it is one which we accept, that the cause of the damage was the detonation of an explosive device within the fuselage, with the initial shattered area forming the focus for the subsequent petalling mode of failure. Further processes led on from that which caused the total disruption and disintegration of the aircraft.

[5] The port side forward cargo bay was loaded with luggage in containers. These containers were approximately 5' by 5' by 5', with an overhang of approximately 18" angled up from the base on the outboard side designed to make maximum use of the curved space in the cargo hold. Most of the containers were made of aluminium apart from the after side which was open for loading and then covered by a plastic curtain. A few of the containers were made of glass-reinforced fibre. The containers were loaded on to the aircraft through a door in the hold, and then slid on rollers into a prearranged position where they were clamped. As part of the reconstruction process, the recovered pieces of containers were reassembled, principally by Mr Claiden, an engineering inspector with the AAIB. When this was done, it was ascertained that

with two exceptions there was no damage to containers other than was to be expected from the disintegration of the aircraft and the containers' fall to the ground. It was however found that there was unusual damage to an aluminium container AVE 4041 and a fibre container AVN 7511. From the loading plan of the containers it was ascertained that AVE 4041 was situated immediately inboard of and slightly above the shattered area of the fuselage, and AVN 7511 was situated immediately aft of AVE 4041. The reconstruction of AVE 4041 demonstrated severe damage to the floor panel and outboard base frame member in the outboard aft quadrant, and also on the internal aspect of that part of the container there were some areas of blackening and pitting. There was also damage to the panels and frame members at the lower aft side of the overhang, and again areas of blackening and pitting. The full details of the nature and extent of the damage are to be found in the evidence of Mr Claiden, and are confirmed in the evidence of Dr Hayes and Mr Feraday, forensic scientists with the Royal Armaments Research and Development Establishment ("RARDE"). The nature of the damage indicated a high-energy event, and the sooting and pitting indicated an explosion. Mr Claiden, whose evidence was given in an impressively careful and restrained manner, stated "I have no doubts in my mind that such an event occurred from within the container", the only occasion on which he stated an absolutely unqualified opinion. Because of the distribution of the areas of sooting and pitting, and in particular the absence of any such signs on the base of the container, it appeared to Mr Claiden that, assuming that an explosive device was contained in a piece of luggage in the container, the likelihood was that that piece of luggage was not lying on the floor of the container but was lying probably on top of a case on the floor and projecting into the overhang of the container. Ascertainment of the precise location of the explosive device was assisted by consideration of the damage to the

adjacent container AVN 7511. The forward face of that container had a hole approximately 8" square about 10" up from the top of the base radiating out from which were areas of sooting extending up to the top of the container. This indicated that a relatively mild blast had exited AVE 4041 and impinged at an angle on the forward face of AVN 7511. Combining that information with the damage to AVE 4041, the likely position of an explosive device was about 13" above the floor of AVE 4041. On that assumption allied to the previous assumption that the piece of luggage containing the device was projecting into the overhang, the position of the device would be approximately 25" from the skin of the fuselage. We found the evidence of Mr Claiden wholly credible, reliable and compelling so far as it went. He was not however an expert on explosives or the effects of explosives. The conclusion reached by Dr Hayes and Mr Feraday as to the position of the explosive device coincided with that of Mr Claiden, and in addition Mr Feraday was present at tests in the USA. These tests involved the use of luggage filled metal containers and the placing of plastic explosives within Toshiba radio cassette players in a garment filled suitcase. The tests confirmed the opinion he expressed as to the position of the explosive device and the quantity of explosive involved.

[6] Technical evidence relating to the effects of explosives was given by Dr Cullis and Professor Peel. Dr Cullis is an expert on the effects of blast and the development of computer codes to simulate the effects of blast in particular different situations, and has been employed at the Defence Evaluation and Research Agency ("DERA") since 1978. Professor Peel is the chief scientist for DERA, specialising in materials and structures used in aircraft, and leader of a team conducting research into *inter alia* the assessment of the effect of detonation of explosives in aircraft. They confirmed that

the presence of pitting and carbon deposits which would look like a very fine soot indicated a chemical explosion. The areas in which this would occur would have to be in line of sight with the explosive, and in particular, as far as pitting was concerned, there would have to be no intervening structure of sufficient mass to prevent explosive fragments impacting on the pitted area. The nature of the cracking in the floor panel of the container is typical of the sort of deformation which would be seen from blast loading, but the absence of pitting or sooting in that area would indicate that there must have been something such as another suitcase situated between the explosive device and the floor panel. On the other hand the pitting and sooting seen on the inner aspect of the horizontal base frame member of the container combined with downward deformation of that member confirms the view that the explosive device was situated above and in direct line of sight of that member and thus was likely to be situated partly at least in the overhang where the presence of a suitcase on the floor of the container would not inhibit the explosive products from striking that member. Further confirmation of the position of the explosive device came from the observation of crushing to the upper surface of the aircraft fuselage frame 700 and pitting and sooting of the two neighbouring frames, this being the area adjacent to the lower after end of the container. Professor Peel's evidence also included a substantial complex section on the nature of impulse loading, the critical level of impulse for failure of aluminium alloy sheet of the type used for the fuselage skin, and the calculation of both the stand-off distance and the size of the explosive charge from the size of the shattered zone and the petalled zone. These calculations indicated a charge of about 450 grammes and a stand-off distance of 610 millimetres, which would take the explosion 200 millimetres inside the container. We do not consider it necessary to go into detail about these complex calculations, as the

physical evidence of damage to the hull, the container, and, as we shall see later, the contents of the container satisfies us beyond any doubt that the explosion occurred within the container, and the calculations serve merely to confirm that view. We should add that this section of his evidence also dealt with the effect, if any, of the concept of Mach stem formation, but we do not consider it necessary to go into any detail about that, as we accept his evidence that although that concept was considered as a means of assessing stand-off distance, it was not actually used.

[7] In addition to the evidence of these experts who were all clear that the damage to the aircraft was caused by an explosion, there was also evidence from Dr Douse, who has specialised for many years in the trace analysis of drugs and explosives and in 1988 worked with RARDE. He pioneered the use of capillary gas chromatography, which is now a well recognised procedure. He examined for the presence of explosive residues two pieces of metal (labels 270.1 and 270.3) which had been identified as the two major parts of the outboard base frame member of container AVE 4041. The procedures involved, which were described in great detail in Dr Douse's evidence, ended with traces on which peaks at particular points may indicate the presence of different types of explosives. These include different variations of nitrotoluene, nitroglycerin, PETN and RDX. There may also be other peaks which result from non-explosive co-extractives. The traces relating to 270.1 and 270.3 indicated the presence of PETN and RDX. These are chemicals used in the manufacture of plastic explosives, including Semtex. In cross-examination it was suggested to him that a report by Professor Caddy presented to Parliament in 1996 on the possible contamination of a centrifuge used at RARDE vitiated his conclusions. However, while that report did indeed suggest that a centrifuge was contaminated

with RDX, it also made clear that certain examinations carried out in the period which included December 1988 were not affected, and in the list of such examinations was included the examination of the Lockerbie debris carried out by Dr Douse. It was further suggested to him that the traces disclosed peaks which were consistent with the presence of TNT, DNT and nitroglycerin, but for the detailed reasons which he gave in his evidence he was entirely satisfied that the peaks in question related not to these forms of explosive but to non-explosive co-extractives. We see no reason to doubt the conclusion to which this very experienced expert came. Finally it was submitted that inadequate precautions were taken at the laboratory by way of the use of control swabs of clothing and equipment to prevent the risk of distorted results because of contamination. There was however a description both by Dr Douse and Dr Hayes of the precautions taken to prevent contamination, and we are satisfied that these precautions were adequate to prevent any risk that Dr Douse's tests were vitiated by any contamination.

[8] From this evidence we are entirely satisfied that the cause of the disaster was the explosion of a device which was contained within the aircraft. We would also be satisfied that the device was within container AVE 4041, but any possible doubts about that would be dispelled by the evidence relating to the examination of the apparent contents of that container, to which we now turn.

[9] During the course of the massive ground search, a large quantity of luggage and clothing was collected and labelled. Within a few days of the disaster it was established that an explosion had occurred, and accordingly the searchers were asked in particular to recover any items which appeared to be scorched or blackened or

otherwise had the appearance of having been involved in an explosion. Any such items were then submitted to the Forensic Explosives Laboratory at RARDE for detailed examination, the principal forensic scientists involved being Dr Hayes and Mr Feraday. Fifty-six fragments which showed various signs of explosives damage were identified as forming part of what had been a brown hardshell Samsonite suitcase of the 26" Silhouette 4000 range ("the primary suitcase"). The nature of the damage indicated that it had been inflicted from within the suitcase. A further twenty-four items of luggage were identified by their characteristic explosives damage as having been in relatively close proximity to the explosive device. Within many of these items there were found fragments of what appeared to be parts of the primary suitcase, and also fragments of what appeared to have been a radio cassette player. Other similar fragments were found in clothing which from their charred appearance were considered to have been contained in the primary suitcase. In addition, when examining a data plate which had been attached to AVE 4041, Mr Claiden recovered a piece of debris which appeared to be a small piece of circuit board. The number of fragments associated with the clothing in close contact with the explosion and the extent of the shattering of these fragments indicated that the explosive charge had in all probability been located within the radio. It was known at that time that in October 1988 the West German police had recovered a Toshiba radio cassette player which had been modified to form an improvised explosive device. Mr Feraday visited West Germany to examine this device, and ascertained that the fragments in his possession and in particular the piece of circuit board recovered by Mr Claiden did not originate from the same model. However, he considered that there was a sufficient similarity to make it worth investigating other models of Toshiba players. It was found that there were seven models in which the printed circuit board

bore precisely the same characteristics as the fragments. Subsequently, when the blast damaged clothing was examined in detail there were found embedded in two different Slalom brand shirts, a Babygro, and a pair of tartan checked trousers, fragments of paper which on examination proved to be from an owner's manual for a Toshiba RT-SF 16 BomBeat radio cassette player. All the other fragments thought to have originated from the radio containing the explosive were consistent with having come from an RT-SF 16. Other fragments of plastic associated with the radio were found in other items of clothing considered to have been in the primary suitcase, namely a white T-shirt, cream pyjamas, a herringbone jacket, and brown herringbone trousers, as well as in the four items in which the fragments of paper were found. The conclusion reached by the forensic scientists was that the nature of the fragments and their distribution left no doubt that the explosive charge was contained within the Toshiba radio, and we agree with that conclusion. Having regard to the presence of fragments of an RT-SF 16 owner's manual, we also accept that it was that model of Toshiba radio that was involved.

[10] As we have noted, a substantial quantity of clothing was examined at RARDE. The primary concern was to ascertain what clothing showed signs of explosion damage, and then, if possible, to differentiate between clothing likely to have been contained within the suitcase that contained the explosive device and clothing in adjacent suitcases. The method adopted by the forensic scientists was to treat as a high probability that any explosion damaged clothing which contained fragments of the radio cassette player, the instruction manual, and the brown fabric-lined cardboard partition from within the suitcase to the exclusion of fragments of the outer shell, was within the primary suitcase. Where clothing carried neither fragments of the

explosive device nor of one or more of the suitcase shells that would have surrounded it, or where it variously carried fragments of the suitcase shells with or without fragments of the explosive device, its specific location was problematic, although the possibility that it was contained in the primary suitcase could not be discounted. There were twelve items of clothing and an umbrella of which fragments were recovered and examined which fell within the first category and accordingly in their opinion had been contained within the primary suitcase. These items were:-

1) A charred fragment of white cotton material which from the details of the stitching and method of assembly appeared most likely to have originated from a white T-shirt of Abanderado brand. Contained within this fragment there were found a piece of loudspeaker mesh and eleven plastic fragments which could have come from a Toshiba radio, and some blue/white fragments consistent with having come from a Babygro (see item 5).

2) Explosion damaged fragments of brown tartan patterned material two of which still retained parts of labels which identified them as having formed part of a pair of Yorkie brand trousers size 34. Contained within one of these fragments there were found fragments of the lining and internal divider of the primary suitcase, five black plastic fragments which could have come from a Toshiba radio, four fragments of an RT-SF 16 owner's manual, and five clumps of blue/white fibres consistent with having come from a Babygro.

3) Four charred and disrupted fragments of grey cloth which in terms of colour, weave and texture appeared to have a common origin. One of these fragments had sewn on to it a "Slalom" label, and all the fragments were consistent with having come from a grey Slalom brand shirt. Contained within one of these fragments (bearing the police label PI/995) there were found a number of items. We shall return to this fragment later, as the defence contended that there were a number of factors surrounding its finding and examination which affected the reliability of the evidence relating to it.

4) Six charred fragments of white material with a fine blue pin-stripe. Although there were no identifying marks on any of these fragments, their colour, weave, texture and construction indicated that their origin was from a shirt closely similar to a Slalom brand shirt. Contained within these fragments there were found sixteen fragments of black plastic and four fragments of loudspeaker mesh which could have come from a Toshiba radio and fragments of an RT-SF 16 owner's manual.

5) Four explosion-damaged fragments of light brown herringbone woven cloth. Although there were no identifying marks on any of these fragments, their colour, weave, texture and construction indicated that their origin was from a pair of Yorkie brand trousers. Six pieces of

black plastic and a fragment of the divider of the primary suitcase were found contained therein.

6) Three explosion-damaged fragments of herringbone patterned brown tweed cloth. Although there were no identifying marks on any of these fragments, their colour, weave, texture and construction indicated that their origin was from a tweed jacket similar in all respects to a control sample obtained by police officers. These fragments contained fragments of black plastic and suitcase divider.

7) Four fragments of cream coloured material with a pattern of brown stripes. One of these was a substantial item clearly identifiable as the remains of a pair of pyjama trousers. Although there were no identifying marks on any of these fragments, their colour, pattern and construction indicated that their origin was from a pair of Panwear brand pyjamas. They contained fragments of black plastic and fragments of lining from the primary suitcase.

8) Thirteen very severely damaged fragments, many extremely small, of blue fibrous material. One fragment consisted of two overlaid pieces of material, one being a blue fibrous material and the other being knitted white ribbed material. Between these two pieces there was trapped the remains of a label printed in different colours containing information about age, height, composition and "made in Malta". This composite fragment matched closely in all significant respects the

labelled neck section of a Babygro Primark brand. The material of the other fragments also matched the material of the same brand. Adhering to these various fragments were fragments of black plastic, wire, paper fragments from the Toshiba owner's manual, and fragments of the divider of the primary suitcase.

9) Three fragments of a black nylon umbrella. The major fragments comprised part of the canopy, ribbing and handle stem, shredded and partly collapsed indicating close involvement with an explosion. Strongly adherent to the canopy material were blue and white fibres, similar in appearance to the Babygro fibres. A second fragment was a piece of silver coated black plastic with fluted surface corrugations similar to part of the locking collar of the umbrella, and this was found in a fragment of the tartan checked trousers (item 2 above).

10) A fragment of an explosion damaged knitted brown woollen cardigan. This item had sewn on to it a label inscribed "Puccini design".

The remaining three items had clearly been very closely involved with the explosion, but there was insufficient material to enable identification to be made of their origin.

[11] The nature and extent of the damage to this clothing together with the items embedded therein confirmed, if confirmation were necessary, that the explosion had occurred within container AVE 4041, and also established beyond doubt that the

explosive device was contained within a Toshiba RT-SF 16 radio cassette player which had been within a brown Samsonite suitcase which also contained the items of clothing enumerated above.

[12] It will be recalled that four of the items identified as having been in the primary suitcase were identifiable by labels as having been of Yorkie, Slalom, Primark and Puccini brands. In August 1989 police officers visited Malta in an attempt to trace the source of these items. After a visit to Yorkie Clothing, on 1 September they went to Mary's House, Tower Road, Sliema. This was a shop run by the Gauci family, Tony Gauci being one of the partners. Mr Gauci's evidence was that he was visited by police officers in September 1989. He was able to tell them that he recalled a particular sale about a fortnight before Christmas 1988, although he could not remember the exact date. His recollection was that the Christmas lights were just being put up. It was midweek, possibly Wednesday. The time was about 6.30pm. The purchaser was a man, and the witness recognised him as being a Libyan. The conversation with the purchaser was probably in a mixture of Arabic, English and Maltese. Many Libyans visit his shop, and when he hears them speaking he can tell the difference between a Libyan and, say, a Tunisian or an Egyptian. He bought an assortment of clothing, but it did not appear to the witness that the nature of what he was buying was of importance. Amongst the items which the witness remembered selling were two pairs of Yorkie trousers, two pairs of striped pyjamas of the same brand as the Panwear fragment, a tweed jacket, a blue Babygro, two Slalom shirts collar size 16½ , two cardigans, one brown and one blue, and an umbrella. The order number seen on the fragment of one of the pairs of Yorkie trousers was 1705, and the delivery note for this order showed that it was delivered on 18 November 1988. The

police obtained either from Mr Gauci or from the manufacturers samples of all of these items, and these were the samples which were used by the forensic scientists when comparing them with the fragments. It may seem surprising that he was able to remember this particular sale in such detail some nine months afterwards, but he explained that the purchaser appeared to be taking little interest in the items he was buying. We are satisfied, however, that his recollection of these items is accurate. While it was never suggested to him that his recollection might have been assisted by the police officers, it is perhaps a measure of his accuracy that he was clear that the purchases did not include an Abanderado T-shirt, even though he did stock such items and it would be one in which the police were interested. While no doubt individual items could have been purchased in many other shops in Malta, or indeed in other parts of the world as many of them were exported, the exact match between so many of the items and the fragments found at Lockerbie is in our view far more than just a coincidence. We are therefore entirely satisfied that the items of clothing in the primary suitcase were those described by Mr Gauci as having been purchased in Mary's House. We shall return to Mr Gauci's evidence in more detail in connection with the date of the sale and the identification of the purchaser.

[13] We now turn to another crucial item that was found during the search of the debris. On 13 January 1989 DC Gilchrist and DC McColm were engaged together in line searches in an area near Newcastleton. A piece of charred material was found by them which was given the police number PI/995 and which subsequently became label 168. The original inscription on the label, which we are satisfied was written by DC Gilchrist, was "Cloth (charred)". The word 'cloth' has been overwritten by the word 'debris'. There was no satisfactory explanation as to why this was done, and

DC Gilchrist's attempts to explain it were at worst evasive and at best confusing. We are, however, satisfied that this item was indeed found in the area described, and DC McColm who corroborated DC Gilchrist on the finding of the item was not cross-examined about the detail of the finding of this item. This item was logged into the property store at Dextar on 17 January 1989. It was suggested by the defence that there was some sinister connotation both in the alteration of the original label and in the delay between the finding of the item and its being logged in to Dextar. As we have indicated, there does not appear to be any particular reason for the alteration of the label, but we are satisfied that there was no sinister reason for it and that it was not tampered with by the finders. As far as the late logging is concerned, at that period there was a vast amount of debris being recovered, and the log shows that many other items were only logged in some days after they had been picked up. Again therefore we see no sinister connotation in this. Because it was a piece of charred material, it was sent for forensic examination. According to his notes, this item was examined, initially on 12 May 1989, by Dr Hayes. His notes show that it was found to be part of the neckband of a grey shirt, and when the control sample was obtained it appeared similar in all respects to the neckband of a Slalom shirt. It was severely explosion damaged with localised penetration holes and blackening consistent with explosive involvement. Embedded within some of the penetration holes there were found nine fragments of black plastic, a small fragment of metal, a small fragment of wire, and a multi-layered fragment of white paper (subsequently ascertained to be fragments from a Toshiba RT-SF 16 and its manual). There was also found embedded a fragment of green coloured circuit board. The next reference to that last fragment occurs in a memorandum sent by Mr Feraday to CI Williamson on 15 September 1989 enclosing a Polaroid photograph of it and asking for assistance in trying to identify it. Again the

defence sought to cast doubt on the provenance of this fragment of circuit board, for three reasons. In the first place, Dr Hayes' note of his examination was numbered as page 51. The subsequent pages had originally been numbered 51 to 55, but these numbers had been overwritten to read 52 to 56. The suggestion was put to Dr Hayes that the original pages 51 to 55 had been renumbered, the original page 56 had been removed, and that thus space was made for the insertion of a new page 51. Dr Hayes' explanation was that originally his notes had not been paginated at all. When he came to prepare his report based on his original notes, he put his notes into more or less chronological order and added page numbers at the top. He assumed that he had inadvertently numbered two consecutive pages as page 51, and after numbering a few more pages had noticed his error and had overwritten with the correct numbers. Pagination was of no materiality, because each item that was examined had the date of examination incorporated into the notes. The second reason for doubt was said to be that in most cases when a fragment of something like a circuit board was found in a piece of clothing, Dr Hayes' practice was to make a drawing of that fragment and give it a separate reference number. There was no drawing of this fragment on page 51, and the designation of the fragment as PT/35(b) was not done until a later date. Finally it was said that it was inexplicable that if this fragment had been found in May 1989 and presumably photographed at the time, his colleague Mr Feraday should be sending a memorandum in September 1989 enclosing a Polaroid photograph as being "the best I can do in such a short time". Dr Hayes could not explain this, and suggested that the person to ask about it would be the author of the memorandum, Mr Feraday, but this was not done. While it is unfortunate that this particular item which turned out to be of major significance to this enquiry despite its miniscule size may not initially have been given the same meticulous treatment as most other items, we

are nevertheless satisfied that the fragment was extracted by Dr Hayes in May 1989 from the remnant of the Slalom shirt found by DC Gilchrist and DC McColm.

[14] Over the ensuing months extensive investigations were carried out by CI Williamson and other police officers within the printed circuit board industry in an attempt to trace the origin of the fragment, but these were fruitless. In about June 1990 CI Williamson received information from an FBI officer named Thurman as a result of which he and Mr Feraday visited FBI headquarters in Washington. They were there shown a timing device known as an MST-13 (label 420). On examination it was found that there was an area on a printed circuit board within that timer which was identical to the recovered fragment except that the Washington device had double-sided solder masking whereas the fragment PT/35(b) was solder masked on one side only. Subsequent enquiries led to a commission rogatoire being obtained, which enabled judicial and police authorities in Switzerland to carry out enquiries on behalf of the Scottish police. In November 1990 and January 1991 there were judicial interviews of two persons, Edwin Bollier and Erwin Meister, the partners in the firm of MEBO, a firm which was engaged in the design and manufacture of various electronic items. There was a further interview with Scottish police officers in May 1991. During the course of these interviews, a number of items were handed over including a quantity of documentation, three timers (two MST-13s and an Olympus), and various components of timers including circuit boards. The detailed examination of these items by Dr Hayes and Mr Feraday and comparison with the fragment of green circuit board left them in no doubt that the fragment originated from an area of the connection pad for an output relay of a circuit board of single solder-mask type of an MST-13 timer. We accept the conclusion to which the forensic scientists came.

[15] The evidence which we have considered up to this stage satisfies us beyond reasonable doubt that the cause of the disaster was the explosion of an improvised explosive device, that that device was contained within a Toshiba radio cassette player in a brown Samsonite suitcase along with various items of clothing. that that clothing had been purchased in Mary's House, Sliema, Malta, and that the initiation of the explosion was triggered by the use of an MST-13 timer.

[16] We now turn to consider the evidence relating to the provenance of the primary suitcase and the possible ways in which it could have found its way into AVE 4041. This involves consideration of the procedures at various airports through which it may have passed.

[17] The Crown case is that the primary suitcase was carried on an Air Malta flight KM180 from Luqa Airport in Malta to Frankfurt, that at Frankfurt it was transferred to PanAm flight PA103A, a feeder flight for PA103, which carried it to London Heathrow Airport, and that there, in turn, it was transferred to PA103. This case is largely dependent on oral and documentary evidence relating to the three airports. From this evidence, it is alleged, an inference can be drawn that an unidentified and unaccompanied item of baggage was carried on KM180 and transferred to PA103A at Frankfurt and PA103 at Heathrow.

[18] When an intending passenger checks in baggage for carriage in an aircraft hold, a numbered tag is attached to each item. Part of the tag is removed and given to the passenger to act as a receipt. The portion attached to the item of baggage bears,

ordinarily, the name of the airline, or the first airline, on which the passenger is to travel and the destination. Where the journey is to be completed in more than one leg or stage, the tag also carries the name of any intermediate airport. The purpose of the tag is to enable the baggage handlers at the airport of departure, at any intermediate airport and at the destination to deliver or transfer the item to the correct flight and return it to the passenger at the final destination. In 1988, tags preprinted with the name of the destination airport were sometimes used when the journey was to be completed in one stage. Where there was more than one stage, the names of the destination and of any intermediate airport were normally written on the tag by hand at the time of check-in. Baggage checked in at the airport of departure is referred to as local origin baggage. Baggage which has to be handled at an intermediate airport is generally referred to as transit baggage. A distinction is normally made between two groups of transit baggage. Online baggage is baggage which arrives at and departs from an intermediate airport on aircraft of the same carrier: interline baggage arrives on an aircraft of one carrier and departs with a different carrier. The terminology is, however, not always used consistently. Baggage is intended to be carried on the same aircraft as the passenger to whom it belongs, but from time to time baggage is misdirected or delayed and has to be carried on a different flight. Such items are identified by an additional special tag, known as a rush tag, and are normally only sent in response to a request from the destination airport, following a claim made by a passenger for baggage which has not been delivered at the destination. The evidence led on this point related only to practice at Luqa airport, but seemed to reflect international practice. A passenger aircraft may also carry items of mail and other freight.

[19] In 1988, and for some time before, airline operators and airport authorities generally were well aware of the risk that attempts might be made to place explosive devices on passenger aircraft and had in place systems intended to minimise that risk. In particular, it was normal to take steps to prevent items of baggage travelling on an aircraft unaccompanied by the passenger who had checked them in, unless there was sufficient reason to regard the items as safe. It was normal to put certain questions to passengers who checked in baggage for a flight and to ensure that every passenger who had checked in baggage at the departure airport had boarded the aircraft, or that safety was otherwise assured, before it was allowed to depart. Similarly, steps were taken to check that transit baggage did not travel without the accompanying passenger. These steps varied between different airports and different carriers. By 1988, PanAm had brought into operation a system of x-raying interline baggage at Frankfurt and Heathrow. The availability of that facility led to changes in the way in which interline passengers and baggage were handled.

[20] PA103 took off from Heathrow shortly before 1830 on 21 December 1988. It was the last transatlantic PanAm flight to depart on that day. Heathrow was therefore the last place at which an explosive device could have been introduced into the hold of the aircraft. Before its departure, the aircraft was parked at stand K14. It had previously been checked and an airworthiness sheet had been completed for it. PA103A arrived at stand K16 and passengers proceeding to New York were instructed to go direct to gate 14. The boarding of passengers, both those originating at Heathrow and those transferring from PA103A, proceeded normally except that one passenger who had checked in two items of baggage at Heathrow failed to appear at the gate. The passenger was an American citizen and a decision was taken that the

aircraft could depart despite his non-appearance. It was later found that he had been drinking in a bar at the airport and missed the boarding call. There is no reason to connect that passenger or the items checked in by him with the explosive device.

[21] At Heathrow, as at Frankfurt, PanAm baggage was handled by employees of PanAm. Security duties for PanAm were carried out by employees of Alert Security, an affiliate company of PanAm. Baggage checked in at Heathrow was sent to an area known as the baggage build-up area before being taken to the aircraft when it was ready for loading. The build-up area was adjacent to a roadway extensively used by persons within the airport. In December 1988 it was busier than usual because construction work was in progress at the airport. If, as was the case with a Boeing 747 aircraft, the baggage, or any of it, was to be loaded into containers to be placed in the aircraft, that was done in the build-up area. Interline baggage arriving at Heathrow was unloaded by airport employees and was sent to an area called the interline shed. This shed was a separate building within the airport terminal area. Baggage removed from incoming flights was brought to the outside of the shed by employees of a company called Whyte's, employed by the airport authority, and placed on a conveyor belt, which carried it into the shed. There was no security guard outside the shed, so that the placing of items on the conveyor belt was unsupervised. The interline shed dealt with baggage for other airlines, as well as baggage for PanAm. Within the shed, interline baggage for a PanAm flight was identified and separated from other airline baggage. It was taken to the PanAm x-ray machine, where it was examined by x-ray by an employee of Alert. After x-ray, it was placed in a container or set aside to await the outgoing flight.

[22] On 21 December 1988 the x-ray operator was Sulkash Kamboj. John Bedford, a loader-driver employed by PanAm, and Mr Parmar, another PanAm employee were working in the interline shed. Mr Bedford set aside container AVE 4041 to receive interline baggage for PA103. The container was identified as the container for PA103 by Mr Bedford who wrote the information on a sheet which was placed in a holder fixed to the container. A number of items were placed in that container. Later Mr Bedford drove the container to a position near the baggage build-up area and left it there. From there, the container was taken out to stand K16, and baggage for New York unloaded from PA103A was loaded into it. The incoming plane carried baggage loose in its hold, not in containers. The evidence of Mr Bedford together with that of Peter Walker, a supervisor in the baggage build-up area, and Darshan Sandhu, a chief loader, and with the container build-up sheet (production 1217), shows that container AVE 4041 contained both interline baggage which had been placed in it in the interline shed, and baggage unloaded from PA103A. When it was full, container AVE 4041 was driven directly to stand 14 and loaded into the hold. The evidence of Terence Crabtree, another driver-loader employed by PanAm, who was the crew chief for the loading of PA103, together with the load plan (production 1183), shows that the container was loaded in position 14 left, which corresponds to the position established by the forensic evidence. The plan also shows that container AVN 7511 was loaded in the adjacent position 21 left, again corresponding to the forensic evidence. There was also some baggage from PA103A which was loaded loose into the hold of PA103.

[23] Mr Bedford said that he recalled that on 21 December 1988 he had set aside container AVE 4041 for baggage for PA103. He recalled also that he had placed a

number of suitcases in the container. These cases were placed on their spines in a row along the back of the container. He said that he had left the interline shed to have a cup of tea with Mr Walker in the build-up area. On his return, he saw that two cases had been added to the container. These cases were laid on their sides, with the handles towards the interior of the container, in the way that he would normally have loaded them. The arrangement of these cases was shown in a set of photographs (production 1114) taken in early January 1989 in Mr Bedford's presence. Mr Bedford said that he had been told by Mr Kamboj that he had placed the additional two suitcases in the container during his absence. Mr Kamboj denied that he had placed any suitcases in the container and denied also that he had told Mr Bedford that he had done so. Both witnesses were referred to a number of police statements which they gave at various times and to their evidence at the Fatal Accident Inquiry into the disaster, and it appears that each of the witnesses has consistently given the same account throughout. Mr Kamboj eventually conceded in evidence, in a half-hearted way, that what Mr Bedford said might be correct, but the contradiction is not resolved. Mr Bedford was a clear and impressive witness and he had no reason to invent what he said. Mr Kamboj was a less impressive witness, and he might have been anxious to avoid any possible responsibility. In our view, the evidence of Mr Bedford should be preferred on this point. The difference between the witnesses is not, however, material since for the purposes of this case what is important is that there is evidence that when the container left the interline area it had in it the two suitcases positioned as described above. Mr Bedford agreed that in statements to police officers and in evidence at the Fatal Accident Inquiry he had described one of the two cases lying on their sides as a brown or maroony-brown hardshell Samsonite-type case. He could not recollect that when he gave evidence in this case, but said

that he had told the truth in his statements and earlier evidence. Mr Bedford also said that he had arranged with Mr Walker that because the incoming flight PA103A was a little delayed, and to wait for it would take him beyond his normal finishing time, he should take the container to the baggage build-up area and leave it there, and that he did so before leaving work soon after 5.00pm. Mr Walker could not recall what had happened, but accepted that he had told investigating police officers soon after the event that he recalled seeing Mr Bedford at about 5.00pm and that Mr Bedford had said that he was going home, but that there was no conversation about leaving a container at the build-up area. Mr Walker's evidence at the FAI in regard to whether or not he was aware of a container being brought to the build-up area differed from his original police statement and he was unable to explain the difference. There is, however, no reason to doubt Mr Bedford's evidence that he did take AVE 4041 to the build-up area and leave it there.

[24] It emerges from the evidence therefore that a suitcase which could fit the forensic description of the primary suitcase was in the container when it left the interline shed. There is also a possibility that an extraneous suitcase could have been introduced by being put onto the conveyor belt outside the interline shed, or introduced into the shed itself or into the container when it was at the build-up area. To achieve that, the person placing the suitcase would have had to avoid being detected, but the evidence indicates that a person in possession of a pass for the airside area would not be likely to be challenged, and there were a very large number of passes issued for Heathrow, a substantial number of which were not accounted for. The person placing the suitcase would also have required to know where to put it to achieve the objective.

[25] It was argued on behalf of the accused that the suitcase described by Mr Bedford could well have been the primary suitcase, particularly as the evidence did not disclose that any fragments of a hard-shell Samsonite-type suitcase had been recovered, apart from those of the primary suitcase itself. It was accepted, for the purposes of this argument, that the effect of forensic evidence was that the suitcase could not have been directly in contact with the floor of the container. It was submitted that there was evidence that an American Tourister suitcase, which had travelled from Frankfurt, fragments of which had been recovered, had been very intimately involved in the explosion and could have been placed under the suitcase spoken to by Mr Bedford. That would have required rearrangement of the items in the container, but such rearrangement could easily have occurred when the baggage from Frankfurt was being put into the container on the tarmac at Heathrow. It is true that such a rearrangement could have occurred, but if there was such a rearrangement, the suitcase described by Mr Bedford might have been placed at some more remote corner of the container, and while the forensic evidence dealt with all the items recovered which showed direct explosive damage, twenty-five in total, there were many other items of baggage found which were not dealt with in detail in the evidence in the case.

[26] At Frankfurt Airport, baggage for most airlines was handled by the airport authority, but PanAm had their own security and baggage handling staff. Frankfurt had a computer controlled automated baggage handling system, through which baggage was passed. Each item of baggage was placed in an individually numbered tray as it was taken into the system. The trays were placed on conveyor belts and

instructions were fed into the computer to identify the flight to which the baggage was to be sent, the position from which the aircraft was to leave and the time of the flight. The trays were dispatched to a waiting area where they circulated until an instruction was fed in to summon the baggage for a particular flight, whereupon the items would be automatically extracted from the waiting area and sent to the departure point. Local origin baggage was received at check-in desks. There was no detailed evidence as to how the check-in staff dealt with it, but such baggage was passed into the system. Transit baggage was taken to one of two areas, identified as V3 and HM respectively, where it was fed into the system at points known as coding stations. All baggage at the airport went through the automated system, with the exception of transit baggage when there was less than 45 minutes interval between flights. In that case, baggage might be taken from one aircraft to another without going through the system.

[27] There were seven coding stations in V3. One such station is shown in photographs in production 1053. The general practice was that baggage from an incoming flight was brought either to HM or to V3 in wagons or containers. On arrival, the baggage from a flight would be directed by an employee called the interline writer to one or more of the coding stations. The proper practice was that each coding station should not deal with baggage from more than one incoming flight at a time. Normally there were two employees at each coding station. One would lift the items of baggage from the wagon or container and place each item in a tray. The other would enter into the computer, in a coded form, the flight number and destination for the outgoing flight, taking the information from the tag attached to the item. There was evidence that from time to time there might be an additional

employee at a coding station, who would assist in removing the baggage and placing it in trays, and that the details from the tag might be read out to the coder by the person putting the item into a tray. Rush tag items were dealt with in the same way as other items. Items which arrived at a coding station without a legible tag were sent to an error area to be dealt with there. Records were kept identifying the staff working at particular stations, the arrival times of aircraft, the arrival times of consignments of baggage at HM or V3, and the station or stations to which the baggage from a particular flight was sent. The computer itself retained a record of the items sent through the system so that it was possible, for a limited period, to identify all the items of baggage sent through the system to a particular flight. After some time, however, that information would be lost from the system. The baggage control system contained its own clock, and there was a tendency for the time recorded by that clock to diverge from real time. The baggage control clock was therefore reset at the start of each day, by reference either to the main computer clock or to the employee's watch. The divergence was progressive and by 4.00pm or 5.00pm the discrepancy might be as much as two or three minutes. Times entered in other records were obtained by the staff from the airport clock or from their own watches.

[28] PanAm had x-ray equipment at Frankfurt, which was used to x-ray interline baggage. The system was that baggage arriving at the departure gate for a PanAm flight would be separated into categories, according to the flight programme. In the case of PA103A, that meant that the loaders would separate baggage for London, baggage for New York, and interline baggage. The last category would be taken to the x-ray equipment and examined and returned to be loaded. The practice of PanAm at Frankfurt was to carry out a reconciliation between local origin passengers and

baggage and online passengers and baggage, to ensure that every such passenger who had baggage on the flight was accounted for, but there was no attempt to reconcile interline passengers and their baggage. Reconciliation of interline passengers would have been difficult because the staff at the gate would not have any knowledge of an interline passenger until the passenger appeared to check in at the gate and receive a boarding card there. There was evidence from two witnesses, Roland O'Neill, the load master for PA103A, and Monika Diegmuller, a check-in supervisor, that there was a reconciliation of interline passengers and baggage, but there was overwhelming evidence to the contrary and their evidence on this point is not acceptable. The evidence that there was no reconciliation came from Herbert Leuniger, PanAm's director at Frankfurt, and Wolf Krommes, a duty station manager with PanAm. Further, in March 1988, Alan Berwick, the head of security for a wide area including the Middle East, after discussion with Martin Huebner, the security officer for PA at Frankfurt, sent a memorandum (production 1170) to Mr Sonesen, the company officer in New York to whom he reported, requesting a corporate decision on the question whether, in view of the existence of the x-ray facility, there should be any reconciliation. The reply (production 1171) emphatically instructed that if baggage had been x-rayed, the aircraft should leave, even if the interline passenger to whom it belonged had not boarded, and that there should be no reconciliation. In early 1989, Mr O'Neill gave a statement to two FAA investigators in terms which implied that there was normally no reconciliation.

[29] The evidence of Joachim Koscha, who was one of the managers of the baggage system at Frankfurt in 1988, taken with production 1068, shows that flight KM180 reached its parking position at 1248 on 21 December 1988. Since it was not a

PanAm flight it was unloaded by employees of the airport authority. According to the record, it was unloading between 1248 and 1300. Andreas Schreiner was in charge of monitoring the arrival of baggage at V3 on 21 December 1988. He made the following record on a document called the interline writer's sheet (production 1092):-

Flug no.	Pos.	ONB	Ank.	DW/V w-Nr.	Anzahl	Wag.	Direkt Pos.	Von V3
KM180	141	1248	1301	146		1		

That bears to record one wagon of baggage from KM180, in position at 1248, arriving at V3 at 1301. Mr Schreiner's evidence was that coding would generally begin three to five minutes after the arrival of the baggage at V3. Mr Schreiner also said that luggage was always delivered from one flight only. Mr Schreiner and Mr Koscha further identified production 1061 as a work sheet completed by a coder to record baggage with which he dealt. The name of the coder in question was Koca, who was not called as a witness. The relevant part of production 1061 is as follows:-

Intestell	Flug Nr.	Kodierzeit Beginn	Ende	Cont. Nr.	Wag.	Kodierer Name
206	KM180	1304	1310	--	1	Koca

That record bears to show that one wagon of baggage from KM180 was coded at station 206 in V3 between 1304 and 1310. It was suggested that the figure for the completion of coding might be 1316, but Mr Schreiner preferred the reading 1310, which is more consistent with what can be seen on the document. There is also documentary evidence (production 1062) that the aircraft used for PA103A arrived from Vienna (as flight PA124) and was placed at position 44, from which it left for London at 1653.

[30] Mrs Bogomira Erac, a computer programmer employed at the airport, was on duty on 21 December 1988. She heard of the loss of PA103 during the evening of that day and realised that PA103A had departed during her period on duty. She was interested in the amount of baggage on the Frankfurt flight, and on the following morning she decided to take a printout of the information as to baggage held on the computer in case it should contain any useful information. She did not at once identify any such information, but retained the printout, which later was given to investigators. The printout is production 1060, and includes the following entry:-

Container no.	Flight no.	Counter no.		Time leave store	Time at gate
B8849	F1042	S0009+Z1307	TO	HS33+Z1517	B044+Z1523

The document itself contains no column headings, and those set out above are derived from the evidence showing how the printout is to be interpreted, by reference to the codes in operation at the time. The document therefore bears to record that an item

coded at station 206 at 1307 was transferred and delivered to the appropriate gate to be loaded on board PA103A.

[31] The documentary evidence as a whole therefore clearly gives rise to the inference that an item which came in on KM180 was transferred to and left on PA103A. Evidence led in connection with KM180 established that there was no passenger who had an onward booking from Frankfurt to London or the United States and that all the passengers on KM180 retrieved all their checked-in baggage at their destinations. The Malta documentation for KM180 does not record that any unaccompanied baggage was carried. Defence counsel submitted that there was no evidence that baggage sent to the gate was actually loaded onto the flight, nor was there any count of the number of bags loaded. There was however evidence from Mr Kasteleiner that it could be taken from the documents that no baggage was left at the gate and it can be inferred that all items sent there were loaded. It follows that there is a plain inference from the documentary record that an unidentified and unaccompanied bag travelled on KM180 from Luqa airport to Frankfurt and there was loaded on PA103A.

[32] Defence counsel submitted that for a number of reasons that inference could not, or not safely, be drawn. In the first place, it was submitted that there was room for error because the computer time could diverge from real time and because the times entered by the operators could be inaccurate, either because the clock or watch relied on was inaccurate or because the entries were not correctly made. It was further suggested that recording of the place from which an item had come would have been of less importance to the operators than ensuring that it went to the right

flight, and that the operators would have an interest to suggest that they had been fully occupied while the accuracy of the records was not a matter of material importance to them. It was also pointed out that the person who made the critical entry in production 1061 had not been called to give evidence, although his name was on the Crown witness list, and that there was no explanation for his absence. We accept that the possibilities of error exist, but the computer clock was reset at the start of each day (although the precise time at which it was reset was not stated) and there was an interest in accurate time-keeping since one of the purposes of keeping records was to be able to trace baggage consignments through the system. The records were records regularly kept for the purposes of the airport business, and can be accepted in the absence of some reason to doubt their accuracy. It was also argued that a very minor discrepancy in the time recording could mean that the inference which the Crown sought to draw would be erroneous, particularly since there might be errors the effect of which was cumulative. Again this is true, but the suspect case was recorded as being coded in the middle of the time attributed to baggage from KM180, so that the possible significance of such errors is reduced.

[33] A further point made by the defence was that the records themselves displayed errors which demonstrated that they could not be relied on. Counsel for the defence referred to two particular matters. The first concerned entries relating to interline baggage which arrived at V3 between 1221 and 1237 on 21 December 1988. It is recorded that four wagons of baggage came from LH669, a Lufthansa flight from Damascus. The worksheets in production 1061 record that one and a half wagons from that flight were coded at station 202 between 1258 and 1307 and one wagon was coded at station 207 between 1303 and 1309. There is no other record of coding of

baggage from that flight, so that on the face of the records one and a half wagons are not accounted for. In view of the timing, it was submitted, it was possible that baggage from LH669 was being dealt with at the same time as baggage from KM180 and that the suspect bag might have come from the Damascus flight. The witness Joachim Koscha, however, referred to notes in the records which indicated that wagons of luggage from that flight had been taken to Customs, as happened from time to time, and gave evidence that wagons taken to Customs might be reloaded in different ways, which might account for the discrepancy. Reference was also made to a number of other instances in which the records showed small discrepancies in the commencing and finishing times entered for coding particular consignments, which on their face seem to show that baggage from more than one flight might have been coded at the same station at the same time. Reference was also made to another item in production 1060. In this instance, the entry is as follows:-

Container no.	Flight no.	Counter no.		Time leave store	Time at gate
B5620	F1042	S0074+Z1544		HV20+Z1546	BO44+Z1549

When interpreted in the same manner as the entry previously referred to, this bears to show that an item coded at a station in HM at 1544 on 21 December also was sent to PA103A, and reference to the coders' records bears to show that baggage from flight LH1071 from Warsaw was being encoded at that station at that time. It was agreed that no passenger from that flight transferred to PA103A, so that the records seem to show the presence of another unaccompanied bag on that flight. In addition it was suggested that the records and other evidence showed, or might show, that additional

items of baggage were carried on PA103A, besides those listed on production 1060. The total number of items listed on production 1060 is 111 but production 199, which is a printout of the passenger manifest for PA103A, bears to show that a total of 118 items were checked in. Further, Mr O'Neill spoke of 21 items of online baggage which arrived on a flight from Berlin and it was suggested therefore that there were additional items beyond those listed in the documents. Production 199 was not scrutinised in much detail in the evidence and the discrepancy in numbers was not explored. It can, however, be seen that 21 of the items on the passenger manifest are marked with the letters TXL, and in the course of questions with regard to one of those items, directed to a different issue, Monika Diegmuller read those letters as indicating that the item had come from Tegel Airport, Berlin. It seems likely, therefore, that Mr O'Neill's 21 items are included in the 118 on the passenger manifest. The remaining discrepancy might be accounted for as late arrival luggage which, according to some of the evidence, might not go through the automated system.

[34] There were other comments on the operation of the system to the effect that there were indications that there might be informal working practices, such as one coder giving assistance to another which might lead to inaccurate recording. There was also evidence as to how individual bags which were found in the wrong place were dealt with, which might have the same result. In this connection, emphasis was placed on the evidence of Lawrence Whittaker, an FBI special agent who was present when enquiries were being made at V3, and who observed a person, whom he described as dressed appropriately for the area, bringing a suitcase to a coding station and coding it in, but did not see any record being made. Mr Whittaker could not be

absolutely certain that no record was made. Apart from pointing to the possibility of errors in recording, defence counsel drew attention to the fact that the records showed that a consignment of interline baggage for PA103A had been taken to the x-ray machine and examined before loading. If the Crown theory is correct, this consignment should have included the suspect item from KM180. It was submitted that the x-ray would, in all probability, have detected any explosive device in a case, particularly as the staff at Frankfurt were aware of warnings to look out for explosive devices hidden in radio cassette players. One such warning was issued after the Autumn Leaves operation in October 1988. Another, more limited, warning was issued because there was understood to be a threat that a woman from Helsinki would attempt to smuggle a device on board an aircraft. It was submitted that that examination would have revealed the presence of the radio cassette player and its contents, particularly in view of the fact that there had been a warning to look out for explosive devices hidden in radio sets. The x-ray operator, Kurt Maier, was not fit through illness to give evidence, but reference was made to statements by him to the investigators from which it appeared that he had x-rayed the consignment in question. One statement was spoken to by Naomi Saunders, one of the FAA investigators, the other by Hans Fuhl of the BKA. In both, Mr Maier explained that he had had some limited training in the use of the machine, but said that in the course of using it he had taught himself to distinguish various sorts of electrical equipment, and that he knew how to tell if explosives were present, from their appearance. Neither statement directly dealt with the question whether, and if so how, Mr Maier would detect explosives hidden in a radio cassette player. What he said was that the approach in dealing with electrical equipment was to see whether it presented a normal appearance, for example whether it had a plug. Other evidence, however, particularly

that given by the witness Oliver Koch, Alert's trainee manager at the time, shows that the standard of training given to Alert employees was poor. That was also the view of the FAA investigators who visited Frankfurt in 1989. Mr Maier's description of what he looked for does not suggest that he would necessarily have claimed to be able to detect explosives hidden in a radio cassette player. There was no expert evidence as to the ease or difficulty of detecting such hidden devices. The x-ray examination is one of the factors to be taken into account but it is only one factor to be weighed along with the others.

[35] The evidence in regard to what happened at Frankfurt Airport, although of crucial importance, is only part of the evidence in the case and has to be considered along with all the other evidence before a conclusion can be reached as to where the primary suitcase originated and how it reached PA103. It can, however, be said at this stage that if the Frankfurt evidence is considered entirely by itself and without reference to any other evidence, none of the points made by the defence seems to us to cast doubt on the inference from the documents and other evidence that an unaccompanied bag from KM180 was transferred to and loaded onto PA103A.

[36] Luqa Airport was relatively small. The evidence did not disclose the exact number of check-in desks but the photographs in production 871 suggest that there were not very many. Behind the check-in desks there was a conveyor belt, and behind it there was a solid wall, separating the check-in area from the airside area. Behind the check-in desks there were three glass doors, again between the public area and airside, but these were kept locked. There were other doors between the airside and the open area, but at Luqa these were guarded by military personnel, who also

dealt with security at other entrances to the airside area of the airport. The conveyor belt carried items of baggage along behind the check-in desks and passed through a small hatch into the airside baggage area. The hatch was also under observation by military personnel and there were Customs officers present in the baggage area. The baggage area was restricted in size. As items of baggage passed along the conveyor belt they were checked for the presence of explosives by military personnel using a sniffer device. The device could detect the presence of many explosives but would not normally detect Semtex, although it might detect one of its constituents under certain circumstances. The only access from the check-in area to the sniffer area was through the hatch or through a separate guarded door.

[37] Air Malta acted as handling agents for all airlines flying out of Luqa. That meant that the check-in desks for all flights were manned by Air Malta staff. There were station managers and other staff of other airlines present at the airport. Some airlines insisted on the use of their own baggage tags, but Air Malta tags could be used for flights of other airlines, in certain circumstances. Whatever the purpose for which they were to be used, Air Malta tags were treated as a security item. They were kept in a store and supplies were issued to the check-in agents when a flight was due to start check-in. The same applied to interline tags. All remaining tags were returned to the supervisor after the check-in was completed.

[38] Luqa airport had a relatively elaborate security system. All items of baggage checked in were entered into the airport computer as well as being noted on the passenger's ticket. After the baggage had passed the sniffer check, it was placed on a trolley in the baggage area to wait until the flight was ready for loading. When the

flight was ready, the baggage was taken out and loaded, and the head loader was required to count the items placed on board. The ramp dispatcher, the airport official on the tarmac responsible for the departure of the flight, was in touch by radiotelephone with the load control office. The load control had access to the computer and after the flight was closed would notify the ramp dispatcher of the number of items checked in. The ramp dispatcher would also be told by the head loader how many items had been loaded and if there was a discrepancy would take steps to resolve it. That might require a check of the ticket coupons, a check with one or more check-in agents or, in the last resort, a physical reconciliation by unloading the baggage and asking passengers to identify their own luggage. Interline bags would be included in the total known to load control, as would any rush items. It was suggested by the Crown that there might at one time have been a practice of allowing the aircraft to leave in spite of a discrepancy, if the discrepancy was less than five items, but the records referred to by the Crown did not bear out that this was a regular practice and the suggestion was firmly denied by the Air Malta and airport witnesses. In addition to the baggage reconciliation procedure, there was a triple count of the number of passengers boarding a departing flight, that is there was a count of the boarding cards, a count by immigration officers of the number of immigration cards handed in, and a head count by the crew. On the face of them, these arrangements seem to make it extremely difficult for an unaccompanied and unidentified bag to be shipped on a flight out of Luqa. It was suggested that there were occasions, particularly when an LAA flight was being checked in, when conditions at the check-in desks were crowded and chaotic because a great deal of miscellaneous and unusual baggage was brought to the desks and because the queues were not orderly. It was therefore suggested that on such an occasion a bag might have been slipped onto the

conveyor belt behind the desks without anyone noticing. Again, evidence was led that on occasions airline representatives, such as the second accused, would assist favoured passengers by helping them to obtain special treatment at the check-in and immigration desks and placing baggage on the conveyor. Evidence to that effect was given by Dennis Burke and Nicholas Ciarlo who worked as travel agents at the airport but none of the evidence went further than suggesting that a case might have been placed on the conveyor belt, from where it would have gone to the explosives check and the baggage area, but not escaping the baggage reconciliation system. The evidence of the responsible officials at the airport, particularly Wilfred Borg, the Air Malta general manager for ground operations at the time, was that it was impossible or highly unlikely that a bag could be introduced undetected at the check-in desks or in the baggage area, or by approaching the loaders, in view of the restricted areas in which the operations proceeded and the presence of Air Malta, Customs and military personnel. Mr Borg conceded that it might not be impossible that a bag could be introduced undetected but said that whether it was probable was another matter.

[39] As regards the flight itself, the check-in for KM180 opened at 0815 and closed at 0915. There were two other flight check-ins open during that period or part of it. Flight KM220 was checking in between 0835 and 0930 and an LAA flight, LN147, was checking in between 0850 and 0950. The records relating to KM180 on 21 December 1988 show no discrepancy in respect of baggage. The flight log (production 930) shows that fifty-five items of baggage were loaded, corresponding to fifty-five on the load plan. There was a good deal of evidence led in relation to the number of items noted on the ticket counterfoils for the flight, and especially in regard to the number of items checked in by a German television crew who travelled on the

flight. It does not seem to us to be necessary to examine that evidence in detail. A discrepancy might have masked the presence of an additional item, but the evidence is inconclusive as to whether or not there was any discrepancy and in any event it is difficult to suppose that a person launching a bomb into the interline system would rely on such a chance happening. If therefore the unaccompanied bag was launched from Luqa, the method by which that was done is not established, and the Crown accepted that they could not point to any specific route by which the primary suitcase could have been loaded. Counsel for the defence pointed out that neither the head loader nor the other members of the loading crew were called to give evidence, and submitted that, in their absence, the Crown could not ask the court to draw any inference adverse to them. The absence of any explanation of the method by which the primary suitcase might have been placed on board KM180 is a major difficulty for the Crown case, and one which has to be considered along with the rest of the circumstantial evidence in the case.

[40] We turn now to consider what evidence there is to establish any involvement on the part of either or both of the accused.

[41] In relation to the first accused, there are three important witnesses, Abdul Majid, Edwin Bollier and Tony Gauci.

[42] Abdul Majid in 1984 joined the Jamahariya Security Organisation ("JSO"), later named the External Security Organisation. His initial employment was in the vehicle maintenance department for about eighteen months. In December 1985 he was appointed as assistant to the station manager of LAA at Luqa airport. This post

was one which was normally filled by a member of the JSO. He gave evidence about the organisation of the JSO in 1985. In particular he said that the director of the central security section was Ezzadin Hinshiri, the head of the operations section was Said Rashid, the head of special operations in the operations department was Nassr Ashur, and the head of the airline security section was the first accused until January 1987 when he moved to the strategic studies institute. The second accused was the station manager for LAA at Luqa from 1985 until about October 1988. While Abdul Majid was only a junior member of the JSO, we are prepared to accept that he was aware of the hierarchy and that his evidence on these matters can be accepted. In August 1988 he contacted the US embassy in Malta, and indicated a willingness to provide them with information. His evidence was that he disapproved of Libyan involvement in terrorism, but the final straw was that he had been summoned back to Tripoli in connection with an incident at the airport involving an Egyptian woman. He said that at that stage he wanted to go to America, but he agreed to stay in position to give information to the Americans about terrorist activities. Thereafter he had regular meetings at about monthly intervals with his CIA handlers. Eventually during 1990 he returned to Libya when the Americans stopped making payments to him. In July 1991 however he finally left Libya for Malta from where he was taken on board a US navy ship. Over a period of about three weeks he was questioned by members of the US Justice Department and provided certain information to them. Since then he has been in America on a witness protection scheme. During the period in Malta when he was having meetings with the CIA, his handlers reported by cable to their headquarters the information he provided. These cables also dealt with the financial arrangements. Such information as he provided during that period does not appear to have been of much value, being mainly confined to the comings and goings of various

people through Luqa. We do not find it necessary to go into much detail about his dealings with the CIA in Malta. What emerged from the evidence quite clearly in our view was that he endeavoured from the outset to give a false impression of his importance within the JSO in the hope of persuading the CIA that he was a valuable asset who might in the future be able to provide valuable information. Thus he initially told them that when he joined the JSO he was in the secret files section, when in fact he was in vehicle maintenance; he claimed to be related to King Idris, which he was not; he claimed long-standing friendship with Ezzadin Hinshiri and Said Rashid, and acquaintance with Abdullah Senussi, the head of operations administration. We are satisfied that these suggestions were at best grossly exaggerated, at worst simply untrue. It is also in our view clear that whatever may have been his original reason for defection, his continued association with the American authorities was largely motivated by financial considerations. In addition to receiving a monthly salary, initially $1000 increasing to $1500, he also persuaded the CIA to pay for sham surgery to his arm with a view to preventing the risk that he would have to do military service in Libya, and tried to persuade them to finance a car rental business which at one stage he said he wanted to set up in Malta. Information provided by a paid informer is always open to the criticism that it may be invented in order to justify payment, and in our view this is a case where such criticism is more than usually justified. It is in this context that we turn to consider particular items in his evidence upon which the Crown sought to found.

[43] At an early meeting with the CIA in October 1988 he was asked if he knew anything of weapons on Malta. He said that he was aware of eight kilos of explosives which had been stored for months at the LAA office. He understood that they had

been introduced some time in 1985 when Abd Al Baset Megrahi was in Malta. They were not kept in a safe, merely in a locked drawer in the desk. He had been asked to help in transferring them to the office of the Libyan Peoples Bureau. A further report shortly thereafter indicated that they were kept in the Valletta office. In July 1991 he added the information that the second accused was the custodian of these explosives, this being the first time the second accused was mentioned in connection with this matter. He further added that it was the second accused who told him that it was the first accused who had brought the explosives. Finally he said that at some stage the first accused told him to 'look after' the second accused, and to take control of the explosives when the second accused left his post as station manager. It is quite clear that the details of this story only emerged some two and a half years after the initial account, and contained a number of inconsistencies with the first account. It is also highly significant that the details only emerged at a stage when it had been made clear to him that unless he came up with some useful information, he was liable simply to be returned to Malta. Even taken at its best, the whole story sounds improbable, and in view of the late introduction of very material detail we are unable to place any reliance on this account. This was the only matter of any significance that was reported to the CIA by Abdul Majid prior to 21 December 1988. Another matter upon which the Crown founded was that in July 1991 Abdul Majid told investigators that he had seen the first accused and the second accused arriving at Luqa off the Tripoli flight some time between October and December 1988. This comparatively innocuous statement gradually enlarged until by the time he gave evidence he said that he saw them at the luggage carousel, that the second accused collected a brown Samsonite type suitcase which he took through Customs, that then he met the two accused who were accompanied by two other people one of whom was introduced to

him by the first accused as Abougela Masoud, a technician, that Vincent Vassallo (an associate of the second accused) was also present having arrived in the second accused's new car, and that they then drove off. As other evidence established that the date of delivery of the second accused's car was 14 December 1988, it follows that if Abdul Majid's story is true this incident must have occurred on 20 December. He maintained that he had told his CIA handlers about this incident at the time. The cables for this period disclose no mention of this incident at all, and the Crown made no attempt to support the proposition that the incident was mentioned at all prior to July 1991. If it had been mentioned, it would be quite inexplicable that the CIA would have failed to appreciate the significance of the information and failed to report it. Furthermore, Mr Vassallo in evidence said that on 20 December he was not at the airport, and that in fact both accused came to his house that evening. We are therefore quite unable to accept the veracity of this belated account by Abdul Majid. A third matter on which the Crown founded was an account given by Abdul Majid of a conversation in about 1986 with Said Rashid in which the latter asked if it would be possible to put an unaccompanied bag on board a British aircraft. Abdul Majid said he would investigate, and asked his assistant Ahmed Salah, also said to be a JSO officer, if it could be done. Ahmed Salah later reported that it could be done, and Abdul Majid wrote a report to Said Rashid to this effect, sending the report through his superior, the first accused. He said that the first accused later visited Malta and this matter was discussed, the first accused saying "don't rush things". In his evidence he accepted that he had never reported this to the CIA even when they asked him if he knew anything about the possibility of the bomb which blew up PA103 being sent from Luqa. He said that his reason for not reporting it was for personal security reasons. Once again, we are quite unable to accept this story when the

information was supplied so belatedly. Putting the matter shortly, we are unable to accept Abdul Majid as a credible and reliable witness on any matter except his description of the organisation of the JSO and the personnel involved there.

[44] The next important issue is that relating to MST-13 timers. The evidence relating to this came essentially from Edwin Bollier, Erwin Meister, Ulrich Lumpert and those who supplied the circuit board components of the timers from Thuring AG, Zurich. MEBO AG was formed in the early 1970s by Edwin Bollier and Erwin Meister. In 1985 it had its offices in the Novapark Hotel (now the Continental Hotel) in Zurich. By then it had for some years supplied electrical, electronic and surveillance equipment. At that time, according to Mr Bollier, its principal customer was the Libyan Government and in particular the Libyan military security, and in connection with that business he made fairly frequent visits to Libya. Mr Lumpert was employed by the company as an engineer and in that capacity he was involved in the design and production of such equipment.

[45] We have assessed carefully the evidence of these three witnesses about the activities of MEBO, and in particular their evidence relating to the MST-13 timers which the company made. All three, and notably Mr Bollier, were shown to be unreliable witnesses. Earlier statements which they made to the police and judicial authorities were at times in conflict with each other, and with the evidence they gave in court. On some occasions, particularly in the case of Mr Bollier, their evidence was self-contradictory.

[46] Mr Bollier gave evidence that one Badri Hassan came to MEBO's offices in Zurich at the end of November or early in December 1988 and asked the firm to supply forty MST-13 timers for the Libyan Army. Mr Bollier checked with Mr Lumpert whether they had sufficient material in stock to make that number of timers. Mr Lumpert, he said, advised that they had not and so, since timers were urgently required by the Libyan Army and Mr Bollier bought timers on the open market. He bought sixteen Olympus timers on 5 December 1988 and the balance of twenty-four such timers on 15 December 1988. On 16 December 1988 he booked his flight from Zurich to Tripoli and back. He flew to Tripoli on 18 December 1988, taking the timers with him. He expected to deliver them to Ezzadin Hinshiri in person on the day of his arrival. Instead, on that day he was taken to Hinshiri's office and left the timers there. On the following day he saw Ezzadin Hinshiri in his office about 10.00am. Hinshiri said that he wanted MST-13 timers and that the Olympus timers were too expensive. Nevertheless, he retained the timers and directed Mr Bollier to go to the first accused's office in the evening in order to get payment for them. From about 6.00pm Mr Bollier sat outside that office for two hours. While he did not see the first accused, he did see Nassr Ashur sitting at a meeting. On 20 December 1988 he again saw Ezzadin Hinshiri who repeated his view that the timers were too expensive, although he wished to keep them and to pay for them later. Mr Bollier however took the timers back and left Tripoli later on the same day, flying by direct flight to Zurich rather than via Malta (as he had expected) where he would have had to spend that night. It was submitted by the Crown that Mr Bollier's visit to Tripoli and particularly his visit to the first accused's office and the presence there of Nassr Ashur provided additional evidence in the case against the first accused. While we accept that Mr Bollier visited Tripoli between 18 and 20 December in order to sell

timers to the Libyan army, because that is substantially vouched by documentary evidence and it was not challenged in evidence, we are not prepared to draw the inference that the Crown sought from this evidence. On his return to Zurich Mr Bollier claimed to have discovered that one of the timers had been set for a time and a day of the week which were relevant to the time when there was an explosion on board PA103. He showed this to Mr Meister who agreed that he was able to see a time and even a date which were relevant. We do not accept the evidence of either of these two witnesses about this alleged discovery. It was established, and Mr Meister was forced to accept, that the Olympus timer was incapable of showing a date. Moreover, the evidence of both witnesses about what they claimed to have seen and the circumstances in which they claimed to have made the discovery was so inconsistent that we are wholly unable to accept any of it.

[47] Similarly, we reject the evidence of Mr Bollier that outside his Zurich office on 30 December 1988 he met a mysterious stranger who Mr Bollier thought was a member of the security services (although of which country he did not specify), who seemed to know a considerable amount about his recent visit to Tripoli, and who encouraged him to purchase a typewriter with Spanish keys on which to type a letter to be sent to the CIA implicating two well known Libyan figures in the bombing of PA103. (Mr Bollier did in fact type such a false letter on a Spanish typewriter which he delivered to the US Embassy in Vienna early in January 1989 on his way to East Germany). This account given by Mr Bollier belongs in our view to the realm of fiction where it may best be placed in the genre of the spy thriller. The notion, also, that a rogue company in Florida was engaged in manufacturing fake MST-13 timers

on the instructions of the CIA, to which Mr Bollier spoke in evidence, falls into the same category.

[48] Despite being examined before a Swiss Magistrate and being interviewed by police officers on several occasions before October 1993, it was only then that Mr Bollier admitted that MEBO had supplied any MST-13 timers to the Stasi (the East German intelligence service). At that time he said that in the late summer of 1985 he had taken two prototypes to the Stasi offices in East Berlin where he had delivered them. He accepted in evidence that he had said in a police interview conducted on 26 January 1994 that he had found in his desk drawer in Zurich in late 1993 an invoice dated 18 September 1985 indicating that seven MST-13 timers had been delivered to the Stasi in 1985. Recognising that this was a principal invoice and not, as one might expect, a copy, Mr Bollier sought to account for its presence in the drawer by saying that it had been put there by "the Secret Service". In any event, he said it was typical of the type of false document which he carried with him on his business journeys in order to get through Customs. This was the first time that Mr Bollier mentioned that a delivery of an additional five timers had been made to the Stasi. We do not accept that the invoice which Mr Bollier said he had found was genuine. Indeed, not even Mr Bollier appeared to have acknowledged it to be genuine.

[49] We do however accept certain parts of Mr Bollier's evidence despite finding him at times an untruthful and at other times an unreliable witness. We have done so when his evidence has not been challenged and appears to have been accepted, or where it is supported from some other acceptable source. We accept, for example, that in or about July 1985 on a visit to Tripoli, Mr Bollier received a request for

electronic timers from Said Rashid or Ezzadin Hinshiri and that he had had military business dealings in relation to the Libyan Government with Ezzadin Hinshiri since the early 1980s. The potential order was for a large number of such timers. Mr Lumpert was told of the requirements by Mr Bollier and proceeded to develop two prototypes. There is a dispute in the evidence between Mr Bollier and Mr Meister on the one hand and Mr Lumpert on the other about the colour of the circuit boards in these prototype timers. Mr Bollier said they were brown, Mr Meister thought they were grey or brown, whereas Mr Lumpert said that they were manufactured from the green coloured circuit boards supplied by Thuring. What we do however accept is that later in the summer of 1985 the two prototypes were delivered by Mr Bollier to the Stasi in East Berlin, whatever be the colour of their circuit boards. This is consistent with the evidence of Mr Wenzel who at the material time was a major in the Stasi and with whom Mr Bollier then dealt. Despite this evidence we cannot, however, exclude absolutely the possibility that more than two MST-13 timers were supplied by MEBO to the Stasi, although there is no positive evidence that they were, nor any reasons why they should have been. Similarly, we cannot exclude the possibility that other MST-13 timers may have been made by MEBO and supplied to other parties, but there is no positive evidence that they were. Equally, despite the evidence of Mr Wenzel that after the fall of the Berlin wall he had destroyed all timers supplied to the Stasi, we are unable to exclude the possibility that any MST-13 timers in the hands of the Stasi left their possession, although there is no positive evidence that they did and in particular that they were supplied to the PFLP-GC.

[50] The initial order placed with Thuring was for twenty circuit boards, solder masked on one side only, i.e. single sided. In fact Thuring supplied twenty-four such

boards. In October 1985 MEBO placed a further order with Thuring for circuit boards but it was specified that they should be solder masked on both sides, i.e. double sided. Thirty-five such boards were ordered, but Thuring supplied only thirty-four. When the Scottish police visited MEBO's premises in May 1991, CI Williamson received from Mr Bollier eleven circuit boards, having been shown twelve. Earlier, on 15 November 1990, following the interview by a Swiss Magistrate of Mr Bollier and Mr Meister, CI Williamson also took possession of two sample MST-13 timers. It is clear from this, therefore, that at least twelve of the circuit boards ordered from Thuring were not used in the manufacture of MST-13 timers. Of the number which CI Williamson took into his possession, four were single sided circuit boards. Of the circuit boards in the sample MST-13 timers recovered by CI Williamson, one was single sided and the other double sided. The MST-13 timer which the US authorities obtained from the Togo Government in September or October 1986 at Lomé (to which reference will later be made) also had a double sided circuit board. It follows that some of the circuit boards of these timers were single sided and some were double sided, and also that a number of the single sided circuit boards supplied by Thuring in August 1985 were not used. Mr Bollier therefore may well have been correct when he said that the Libyan order was met with the supply of timers which had circuit boards of both types. We also accept Mr Bollier's evidence that he supplied the twenty samples to Libya in three batches. In 1985 he himself delivered five on a visit to Tripoli. In the same year he delivered another five to the Libyan Embassy in East Berlin. In 1986 he delivered the remaining ten personally in Tripoli.

[51] In September or October 1986 the President of Togo asked the US Government to send representatives to examine a cache of arms which had been discovered in that country. Three US government officials attended at Lomé. Amongst the captured equipment there were two MEBO MST-13 timers which interested the Americans because they looked particularly modern and sophisticated compared to the other items which seemed old and worn. The Americans received permission to take one of the two timers back in the diplomatic bag to the US. In June 1990 Mr Feraday attended at the Explosives Unit of the FBI HQ in Washington DC and examined it there. A preliminary examination by him determined that there were similarities between the circuit board of the Lomé timer and the fragment PT/35(b). On later examination he discovered that the Lomé timer had a double sided circuit board, whereas the fragment PT/35(b) came from a single sided circuit board. Further he observed that the board did not have the corners cut out, which indicated that it cannot have been boxed. An attempt had been made to scratch out the letters MEBO on the surface of a smaller circuit board contained within the timer. Counsel for the first accused drew our attention to the fact that amongst the equipment captured there were ammunition pouches which were recognised as pouches of East German design. In fact, there were, in addition, rifles and handguns of East German origin amongst the equipment, but the other items, including detonators, a length of fuse, a detonator box and ammunition, came from several different countries, including Bulgaria, the Soviet Union, France and West Germany. Counsel also reminded us that Mr Wenzel had given evidence that it was his practice to remove the MEBO name from products supplied by Mr Bollier. In these circumstances we cannot exclude the possibility that the source of at least one of the two MST-13 timers

found in Togo was East Germany, but on any view there were material differences between these timers and the one used to trigger the explosion on PA103.

[52] The timer recovered in Togo which, as we have said, was one of two, was considered by the witness Richard Sherrow to be identical to one which was discovered in Dakar, Senegal, on 20 February 1988 within a briefcase found on board a passenger aircraft which had arrived at the airport there from Cotonou in Benin. It was recovered in October 1999 by CI Williamson from the French Ministry of Justice in Paris but was not examined forensically. It cannot therefore be said whether its circuit board was single or double sided. In the briefcase were found also nine metres of fuse, four blocks of TNT, two blocks of Semtex-H, nine electric detonators, a pistol with a silencer, a box of bullets, one empty clip and five discs for the silencer. Three persons were taken into custody from the aircraft – a Senegalese named Ahmed Khalifa Niasse, Mansour Omran El Saber who at the time was a member of the Libyan ESO, and one Mohamed El Marzouk. The evidence did not establish any connection between any of these three arrested persons and the briefcase and its contents.

[53] Mr Bollier gave evidence that he attended tests carried out by the Libyan military in the Libyan desert at Sabha which involved, *inter alia*, the use of MST-13 timers in connection with explosives and in particular air bombs. He said that the timers were brought by Nassr Ashur. Mr Bollier attended there as a technical expert. He thought that this was in 1986 after the last batch of timers had been delivered to the Libyan Government, but later he qualified this by saying that it might be in the middle or the fall of 1987. From the way in which he gave evidence about these tests

we are persuaded that he did indeed attend such tests, although it is not clear when they were carried out or what was their purpose.

[54] We also accept Mr Bollier's evidence, supported by documentation, that MEBO rented an office in their Zurich premises some time in 1988 to the firm ABH in which the first accused and one Badri Hassan were the principals. They explained to Mr Bollier that they might be interested in taking a share in MEBO or in having business dealings with MEBO.

[55] The third important witness is Mr Gauci. We have already referred to his evidence in connection with the sale of clothing. Mr Gauci picked out the first accused at an identification parade on 13 August 1999, using the words as written in the parade report "Not exactly the man I saw in the shop. Ten years ago I saw him, but the man who look a little bit like exactly is the number 5". Number 5 in the parade was the first accused. He also identified him in Court, saying "He is the man on this side. He resembles him a lot". These identifications were criticised *inter alia* on the ground that photographs of the accused have featured many times over the years in the media and accordingly purported identifications more than ten years after the event are of little if any value. Before assessing the quality and value of these identifications it is important to look at the history.

[56] In his evidence in chief, Mr Gauci said that the date of purchase must have been about a fortnight before Christmas. He was asked if he could be more specific under reference to the street Christmas decorations. Initially he said "I wouldn't know exactly, but I have never really noticed these things, but I remember, yes, there

were Christmas lights. They were on already. I'm sure. I can't say exactly". In a later answer when it had been put to him that he had earlier said that the sale was before the Christmas decorations went up, he said "I don't know. I'm not sure what I told them exactly about this. I believe they were putting up the lights, though, in those times." He could not say what day of the week it was. He was alone in the shop because his brother was at home watching football on television. When asked about the weather he said "When he came by the first time, it wasn't raining but then it started dripping. Not very -- it was not raining heavily. It was simply dripping..." As we have previously noted, he said the purchaser was a Libyan. He was wearing a blue suit. When asked about the build of the purchaser, he said "I'm not an expert on these things. I think he was below six feet....He wasn't small. He was a normal stature. He had ordered a 16½ shirt". When asked about age he said "I said before, below six – under sixty. I don't have experience on height and age." He also said the purchaser had dark coloured skin. On 13 September he went to the police station where he assisted in the compilation of a photofit (production 430.1) and an artist's impression (production 427.1). He described the result of both as being 'very close'.

[57] In cross-examination he had put to him a number of statements he had made to the police. He was first interviewed by the police on 1 September 1989. On that date, in addition to giving the police information about the clothing, he also gave information about the circumstances of the sale, the date of the sale, and the description of the purchaser. In the statement noted by DCI Bell on that date, Mr Gauci said that he had been working alone in the shop between 6.30pm and 7.00pm when the purchaser came in. The description of the purchaser as given to DCI Bell was that he was six feet or more in height. He had a big chest and a large head. He

was well built but was not fat or with a big stomach. His hair was very black. He was clean-shaven with no facial hair and had dark coloured skin. His overall appearance was smart. He bought an umbrella and put it up when he left the shop because it was raining. Mr Gauci said that he could not remember the day of the week although he thought it was a weekday. In a further statement on 13 September he said that the man was about 50 years of age.

[58] On 14 September 1989 Mr Gauci was taken to police headquarters at Floriana, Malta, where he was interviewed by DCI Bell and Inspector Scicluna of the Maltese police. They took a statement from him and showed him nineteen photographs on two cards. Mr Gauci identified a photograph of a man in one of the cards. He said that he was similar to the man who had bought the clothing but the man in the photograph he identified was too young to be the man who had bought the clothing. If he was older by about twenty years he would have looked like the man who bought the clothing. He signed the front of the photograph of the man whom he identified as similar. He said in his statement that the photograph looked like the man's features so far as the eyes, nose, mouth and shape of face were concerned. The hair of the customer was similar but shorter than that of the man in the photograph. DCI Bell revealed that the person whom Mr Gauci had identified was someone whom the Maltese Security Branch considered to be similar to the artist and photo-fit impressions which had been composed as a result of the description given by Mr Gauci. The man was later identified as one Mohammed Salem.

[59] On 26 September 1989 Mr Gauci again attended at police headquarters in Malta where he was interviewed by the same two police officers. He was then shown

more photographs. He said that he did not see the man to whom he sold the clothing, but he pointed out one photograph of a man who had the same hairstyle. He said that this was not the man he sold the clothing to as the man in the photograph was too young. The person he pointed out, according to the evidence of DCI Bell, was a person called Shukra whose photograph was included at the suggestion of the BKA, the German police force, who suggested that Shukra might be similar to the person whom Mr Gauci had already described.

[60] On 31 August 1990 Mr Gauci gave a further statement to DCI Bell and Inspector Scicluna at police headquarters at Floriana. He was shown a card containing twelve photographs. He examined these photographs and said that he could not see the photograph of the man who had purchased the clothing, and he told DCI Bell that the man's photograph was not present. He pointed out one of the photographs of a man who was similar in the shape of the face and style of hair but it was not, he said, the photograph of the man whom he had described. He informed DCI Bell that three other photographs he was shown were photographs of men of the correct age of the man he had described. DCI Bell then opened another set of photographs, twelve in number. Mr Gauci examined each of these but could not see the photograph of the man who had purchased the clothing. DCI Bell gave evidence that in the first series there was included a photograph of a man Marzouk and in the second series a man named Saber. He could not however say which photographs represented either person.

[61] On 10 September 1990 Mr Gauci again attended at police headquarters. He was shown thirty-nine photographs on that occasion which were contained in an

album. He however made no identification of anyone from these photographs which included a photograph of Abo Talb. Mr Gauci had been shown on 6 December 1989 a selection of photographs which included a photograph of Abo Talb, but he made no identification of anyone from these photographs. At about the end of 1989 or the beginning of 1990 his brother showed him an article in a newspaper about the Lockerbie disaster. As he recalled, there were photographs of two people in the article. Across the photograph of the wreckage of Pan Am 103 there was printed the word "Bomber". In the top right corner of the article there was a photograph of a man with the word "Bomber" also across it. Mr Gauci thought that one of the photographs showed the man who had bought the articles from him. When the Advocate Depute put to Mr Gauci in evidence at the trial that the man in the photograph looked similar to the man who had bought the clothes, Mr Gauci replied that it resembled him and he explained that the man's face and hair resembled the person who had bought the clothes from him. The person whom he identified in that way was Abo Talb. By the time he gave his statement on 10 September 1990 Mr Gauci had been shown many photographs but he said in that statement that he had never seen a photograph of the man who had bought the clothing.

[62] On 15 February 1991 Mr Gauci again attended at police headquarters. He was asked to look at a number of photographs and a card of twelve photographs was put before him. He said: "The first impression I had was that all the photographs were of men younger than the man who bought the clothing. I told Mr Bell this. I was asked to look at all the photographs carefully and to try and allow for any age difference. I then pointed out one of the photographs." He said of the photograph of the person he had pointed out: "Number 8 is similar to the man who bought the clothing. The hair

is perhaps a bit long. The eyebrows are the same. The nose is the same. And his chin and shape of face are the same. The man in the photograph number 8 is in my opinion in his 30 years. He would perhaps have to look about 10 years or more older, and he would look like the man who bought the clothes. It's been a long time now, and I can only say that this photograph 8 resembles the man who bought the clothing, but it is younger." He went on further to say: "I can only say that of all the photographs I have been shown, this photograph number 8 is the only one really similar to the man who bought the clothing, if he was a bit older, other than the one my brother showed me." He was asked by DCI Bell if what he said was true and that this photograph was the only one really similar to the man who bought the clothing if he was a bit older, other than the one his brother had shown him, and he said: "Of course. He didn't have such long hair, either. His hair wasn't so large." DCI Bell later gave evidence that the person shown in photograph 8 was the first accused, being apparently the same as the photograph in the first accused's 1986 passport. He also said that before showing Mr Gauci the card of photographs he had all the other photographs dulled down to the same level of brightness as the first accused's photograph. He said that he did that simply for fairness because the rest of the photographs were brighter and sharper than that of the first accused and he wanted them all to look the same. Counsel for the first accused submitted that DCI Bell's attempts to make the quality of all the photographs similar had failed, but in our view this criticism has no validity.

[63] Finally, so far as police interviews were concerned, Mr Gauci was asked about a visit he made to Inspector Scicluna towards the end of 1998 or the beginning of 1999 after another shopkeeper showed him a magazine containing an article about the

Lockerbie disaster. Towards the bottom of the page in the article there was a photograph in the centre of a man wearing glasses. Mr Gauci thought that that man looked like the man who had bought the clothes from him but his hair was much shorter and he didn't wear glasses. He showed the photograph in the article to Inspector Scicluna and, as Mr Gauci recalled it, he said "Well now I said 'This chap looks like the man who bought articles from me.' Something like that I told him." He added that the hair of the man who bought from him was much shorter than that shown in the photograph and he was without glasses. The photograph was a photograph of the first accused.

[64] In cross-examination Mr Gauci was referred to a statement which he had given to DCI Bell on 14 September 1989. In that statement he said that the purchase of the clothing was made on a week day when he was alone in the shop. His brother Paul Gauci did not work in the shop on that particular afternoon because he had gone home to watch a football match on television. It was agreed by Joint Minute that whichever football match or matches Paul Gauci had watched would have been broadcast by Italian Radio Television either on 23 November 1988 or 7 December 1988. Mr Gauci had also said in that statement that the purchaser walked out of the shop with the umbrella which he had purchased and that he had opened up the umbrella as it was raining. In his evidence he agreed that he had said this because it was raining at the time. When the man returned, the umbrella was down because it had almost stopped raining. There were just a few drops coming down. In a later statement he said that it had almost stopped raining when the man came back and there were just a few drops still coming down. It wasn't raining, he said in evidence, it was just drizzling. In a statement dated 10 September 1990 which was put to him in cross-examination he

said that just before the man left the shop there was a light shower of rain just beginning. As the man left the shop he opened up the umbrella which he had just purchased. "There was very little rain on the ground, no running water, just damp." He was also asked in cross-examination what he meant when he used the word "midweek" and he responded by saying that he meant a Wednesday. It was put to him that midweek meant a day which was separate from the weekend, in other words that the shop would be open the day before and the day after. To that Mr Gauci said "That's it. Exactly. Tuesday and Thursday." But he then went on to say that for him midweek was Wednesday. It was not put to him that Thursday 8 December 1988 was a public holiday, it being the feast of the Immaculate Conception on that day. That evidence was given on Day 76 by Major Mifsud in the course of evidence led for the first accused. We are satisfied that when Mr Gauci was asked whether the shop would be open the day before and the day after he was being asked what he meant by the word "midweek", and not whether the day after the purchase of the clothing was made in his shop, the shop was open for business.

[65] Major Mifsud was between 1979 and 1988 the Chief Meteorologist at the Meteorological Office at Luqa Airport. He was shown the meteorological records kept by his department for the two periods, 7/8 December 1988 and 23/24 November 1988. He said that on 7 December 1988 at Luqa there was a trace of rain which fell at 9.00am but apart from that no rain was recorded later in the day. Sliema is about five kilometres from Luqa. When he was asked whether rain might have fallen at Sliema between 6.00pm. and 7.00pm in the evening of 7 December 1988, he explained that although there was cloud cover at the time he would say "that 90% was no rain" but there was however always the possibility that there could be some drops of rain,

"about 10% probability, in other places." He thought a few drops of rain might have fallen but he wouldn't think that the ground would have been made damp. To wet the ground the rain had to last for quite some time. The position so far as 23 November 1988 was concerned was different. At Luqa there was light intermittent rain on that day from noon onwards which by 1800 hours GMT had produced 0.6 of a millimetre of rain. He thought that the situation in the Sliema area would have been very much the same.

[66] Counsel for the first accused drew our attention to evidence which Mr Gauci gave that according to an invoice which he received, dated 25 November 1988, he purchased eight pairs of pyjamas about that time. Pyjamas sold well in winter and he used to buy stock "when it finished". According to a previous invoice dated 31 October 1988 he had at that time bought sixteen pairs. Since the purchaser of the clothing had bought two pairs of pyjamas and Mr Gauci had renewed his stock around 25 November 1988, counsel asked us to infer that the purchase of the two pairs must have been made on 23 November 1988. We are unable to draw this inference. In the first place it was not put to Mr Gauci in evidence that this may have been the sequence of events. Secondly, Mr Gauci was not asked what the state of his stock of pyjamas was on or about 7 December 1988.

[67] In assessing Mr Gauci's evidence we should first deal with a suggestion made in the submissions for the first accused that his demeanour was unsatisfactory – reluctant to look the cross examiner in the eye, a strange and lonely man, and enjoying the attention he was getting. We have to say we find no substance in any of these criticisms. We are not clear on what basis it was said that he was strange and

lonely, and as far as enjoying attention is concerned, he made it clear that his co-operation with the investigation was a source of some friction within his family. The clear impression that we formed was that he was in the first place entirely credible, that is to say doing his best to tell the truth to the best of his recollection, and indeed no suggestion was made to the contrary. That of course is not an end of the matter, as even the most credible of witnesses may be unreliable or plainly wrong. We are satisfied that on two matters he was entirely reliable, namely the list of clothing that he sold and the fact that the purchaser was a Libyan. On the matter of identification of the first accused, there are undoubtedly problems. We are satisfied with Mr Gauci's recollection, which he has maintained throughout, that his brother was watching football on the material date, and that narrows the field to 23 November or 7 December. There is no doubt that the weather on 23 November would be wholly consistent with a light shower between 6.30pm and 7.00pm. The possibility that there was a brief light shower on 7 December is not however ruled out by the evidence of Major Mifsud. It is perhaps unfortunate that Mr Gauci was never asked if he had any recollection of the weather at any other time on that day, as evidence that this was the first rain of the day would have tended to favour 7 December over 23 November. While Major Mifsud's evidence was clear about the position at Luqa, he did not rule out the possibility of a light shower at Sliema. Mr Gauci's recollection of the weather was that "it started dripping – not raining heavily" or that there was a "drizzle", and it only appeared to last for the time that the purchaser was away from the shop to get a taxi, and the taxi rank was not far away. The position about the Christmas decorations was unclear, but it would seem consistent with Mr Gauci's rather confused recollection that the purchase was about the time when the decorations would be going up, which in turn would be consistent with his recollection in

evidence that it was about two weeks before Christmas. We are unimpressed by the suggestion that because Thursday 8 December was a public holiday, Mr Gauci should have been able to fix the date by reference to that. Even if there was some validity in that suggestion, it loses any value when it was never put to him for his comments. Having carefully considered all the factors relating to this aspect, we have reached the conclusion that the date of purchase was Wednesday 7 December.

[68] Mr Gauci's initial description to DCI Bell would not in a number of respects fit the first accused. At the identification parade the first accused's height was measured at 5'8". His age in December 1988 was 36. Mr Gauci said that he did not have experience of height or age, but even so it has to be accepted that there was a substantial discrepancy. Counsel for the first accused also pointed out that when the witness having pointed to the first accused in court, and asked which of the two accused he was referring to, said "Not the dark one, the other one", and the first accused was the other one. When however he first saw a photograph of the first accused in a montage of twelve, he picked him out in the terms we have indicated above.

[69] What did appear to us to be clear was that Mr Gauci applied his mind carefully to the problem of identification whenever he was shown photographs, and did not just pick someone out at random. Unlike many witnesses who express confidence in their identification when there is little justification for it, he was always careful to express any reservations he had and gave reasons why he thought that there was a resemblance. There are situations where a careful witness who will not commit himself beyond saying that there is a close resemblance can be regarded as more

reliable and convincing in his identification than a witness who maintains that his identification is 100% certain. From his general demeanour and his approach to the difficult problem of identification, we formed the view that when he picked out the first accused at the identification parade and in Court, he was doing so not just because it was comparatively easy to do so but because he genuinely felt that he was correct in picking him out as having a close resemblance to the purchaser, and we did regard him as a careful witness who would not commit himself to an absolutely positive identification when a substantial period had elapsed. We accept of course that he never made what could be described as an absolutely positive identification, but having regard to the lapse of time it would have been surprising if he had been able to do so. We have also not overlooked the difficulties in relation to his description of height and age. We are nevertheless satisfied that his identification so far as it went of the first accused as the purchaser was reliable and should be treated as a highly important element in this case. We should add that we have not made any attempt to compare for ourselves any resemblance between the first accused's passport photograph and the identikit or artist's impression, nor with the first accused's appearance in the video recordings of his interview with Pierre Salinger in November 1991.

[70] Prior to the start of the trial each accused lodged a Notice, in identical terms, which was treated as a Special Defence of Incrimination. The persons incriminated in the Schedule to the Notice were as follows:-

"1 Members of the Palestinian Popular Struggle Front which may include Mohamed Abo Talb, Crown witness no 963, Talal Chabaan, present whereabouts unknown, Mohammed Ghaloom Khalil Hassan, present

whereabouts unknown, Hashem Salem also known as Hashem Abu Nada present whereabouts unknown, Madieha Mohamed Abu Faja, present whereabouts unknown, Abd El Salam Arif Abu Nada, Magdy Moussa, Jamal Haider all present whereabouts unknown but all formerly directors of the Miska Bakery, Malta and Imad Adel Hazzouri, Gawrha, 42 Triq Patri, Guzi Delia Street, Balzan.

2 Members of the Popular Front for the Liberation of Palestine – General Command.

3 Parviz Taheri, crown witness 996."

[71] As with all special defences, this Notice does not in any way affect the burden of proof. That remains on the Crown throughout the trial and it is therefore for the Crown to prove beyond reasonable doubt that the accused committed the crime charged. There is therefore no onus on the Defence to prove that any of the persons referred to in the Schedule to the Notice were the perpetrators. The sole purpose of the Notice is, as its name implies, to give notice to the Crown prior to the start of the trial as to the possible effect of evidence which the Defence might lead in the course of the trial.

[72] In the event, such evidence was led and in his closing submissions counsel for the first accused made reference to it. In the first place, however, it should be recorded that at the end of his closing submissions counsel said that he was not suggesting that Parviz Taheri may have been responsible for the crime charged. That was in our view an inevitable concession given the evidence that we heard. Counsel for the second accused in his closing submissions did not in fact refer to those

mentioned in the Notice at all, preferring to concentrate on the evidence that the Crown had relied on in relation to his client. In these circumstances we need say no more about Parviz Taheri.

[73] We turn next to the evidence in relation to members of the Popular Front for the Liberation of Palestine – General Command ("PFLP-GC"). No member of that organisation gave evidence but it was clear from other evidence that we heard, in particular from officers of the German police force, the BKA, that a cell of the PFLP-GC was operating in what was then West Germany at least up until October 1988. The evidence which we accept showed that at least at that time the cell had both the means and the intention to manufacture bombs which could be used to destroy civil aircraft. On 26 October 1988, after a period of surveillance, the BKA made a series of raids and arrested a number of individuals in an operation code-named Autumn Leaves. In particular they raided premises at Sandweg 28, Frankfurt and the home of Hashem Abassi in Neuss and they seized a car which had been used by Haj Hafez Kassem Dalkamoni, apparently the leader of the cell. In these premises they found radio cassette players, explosives, detonators, timers, barometric pressure devices, arms, ammunition and other items, including a number of airline timetables and seven unused Lufthansa luggage tags. From other evidence it appeared that one of the airline timetables was a PanAm timetable. There was considerable evidence of bombs being manufactured so as to be concealed in Toshiba radio cassette players. The models being used were, however, different from the RT SF-16 used in the PA103 disaster, and the timers were of a type known as ice-cube timers. These were quite different from MST-13s, much less sophisticated and much less reliable, and the

intention was no doubt to use them in conjunction with the barometric pressure devices to detonate the explosive.

[74] While all this material was seized by the BKA on 26 October 1988 and the principal members of the PFLP-GC cell in West Germany were arrested on that date, the evidence was that most were released shortly thereafter. Dalkamoni, however, was not, and he was later convicted in relation to bomb attacks on a railway line in Germany in 1987 and 1988 and possession of the weapons found at Sandweg 28. He was sentenced to imprisonment for fifteen years. It is possible, of course, that the cell could have re-grouped and re-stocked with the necessary materials by 21 December. In April 1989 three further explosive devices were recovered at Hashem Abassi's new address in Neuss, but the indications were that these were items which had formed part of the stock in October 1988. There was no evidence that the cell had the materials necessary to manufacture an explosive device of the type that destroyed PA103. In particular there was no evidence that they had an MST-13 timer. For the reasons given elsewhere, while a small quantity of such timers was supplied by MEBO to the East German Stasi, there is no evidence at all to suggest that any of them found their way into the hands of organisations such as the PFLP-GC. On the evidence which we heard we are satisfied that the explosive device which destroyed PA103 was triggered by an MST-13 timer alone and that neither an ice-cube timer nor any barometric device played any part in it. It is also to be noted that the cell's principal bomb-maker was one Marwan Khreesat who was in fact an agent who infiltrated the cell on behalf of the Jordanian Intelligence Service. His instructions from them were that any bomb he made must not be primed. Moreover, while he himself did not give evidence, there was evidence of a statement given by him to FBI

agents (production 1851) in which he said that he never used radio cassette players with twin speakers (such as the Toshiba RT-SF 16 had) to convert into explosive devices.

[75] There was also a suggestion that the PFLP-GC might have infiltrated a bomb on to PA103A in Frankfurt through the medium of Khaled Jaafar, a 20 year old US/Lebanese national who boarded PA103A at Frankfurt and then PA103 at Heathrow with the intention of visiting his father in the USA. He, of course, died in the disaster. The evidence that we accept was that he had come from Lebanon a few weeks before and had been staying in Dortmund with a man Hassan El Salheli, who had himself comé to West Germany from Lebanon in 1986 and is now a German citizen. When Khaled Jaafar arrived he had two holdalls with him containing his clothing, and it was these two holdalls that he took with him when he left. El Salheli was present when his bags were packed and they contained nothing but clothing. There was something of a farewell gathering of Arabs at Dortmund train station to see Khaled Jaafar off to Frankfurt on 21 December 1988, but there was no evidence of anything being put in his bags there or of his leaving with an extra bag. At Frankfurt Airport the passenger manifest (production 199) bears to record that he checked in two pieces of luggage. In the queue to pass through passport control he was closely observed by another passenger, Yasmin Siddique (who travelled only to London) and was not seen to be carrying any luggage. The reason for leading the evidence of this other passenger was that she observed him, as she thought, to be acting somewhat suspiciously. The suggestion appeared to be that he was nervous and this might be because he had infiltrated something onto PA103A. We are quite satisfied on the evidence, however, that he only had two bags with him and these were checked into

the hold for PA103A at Frankfurt. We are also satisfied that neither of these two bags contained an explosive device. After PA103 crashed the two bags were found close by one another. Neither had suffered any explosion damage.

[76] It remains to consider those named in paragraph 1 of the Schedule to the Notice. Only one of them gave evidence, namely Mohamed Abo Talb. His evidence was that he was born in Egypt and after a period in the Egyptian army he deserted and went to Jordan and, a few months later, to Lebanon. He said that while in Jordan, in about 1972, he joined the Palestinian Popular Struggle Front ("PPSF") and worked for them thereafter in what he described as military operations, and then security and latterly as bodyguard to the leader of the PPSF. During this period he was mainly based in Lebanon but moved to Damascus in 1982. In 1983 he left Damascus for Sweden where he has lived ever since. He said that after arriving in Sweden he did not belong to any Palestinian organisation and ceased all his activities in relation to Palestine. However, in 1989 he was convicted of a number of serious offences arising out of the bombing of targets in Copenhagen and Amsterdam in 1985 and was sentenced to life imprisonment. He is still serving that sentence.

[77] Abo Talb's wife, whom he married in 1979, and their children also live in Sweden, in Uppsala. So do a number of members of her family and other Arabs with whom Abo Talb associated. In particular, when Abo Talb was arrested in 1989 in connection with the bombings in Copenhagen and Amsterdam (and also one in Stockholm of which he was acquitted) his wife's brothers Mahmud and Mustafa Al Mougrabi were also arrested, as was a friend of Abo Talb's, Martin Imandi (also known as Imad Chabaan). There was also some evidence that some of those in

Sweden associated with members of the PFLP-GC cell in West Germany. At that time the PPSF and the PFLP-GC shared the same political objective, namely the complete liberation of Palestine involving the destruction of the state of Israel. They both saw the USA as Israel's greatest ally. In 1988 Mohamed Al Mougrabi visited Hashem Abassi in Neuss and met Dalkamoni at a time when bombs were being manufactured there by Marwan Khreesat. Also there at the same time were two others (a brother and a cousin of Martin Imandi) who were later smuggled into Sweden by Mohamed Al Mougrabi. In addition, Ahmed Abassi, who also lived in Uppsala and knew both Abo Talb and Mohamed Al Mougrabi, was staying with his brother Hashem in Neuss at the time of the Autumn Leaves raids and was with Dalkamoni and Khreesat on an expedition to buy electrical components on 26 October when they were arrested by the BKA. There was also a suggestion that there had been a PFLP-GC cell in Sweden which had been investigated by the Swedish authorities in 1980, before Abo Talb went there, and Abo Talb said that a person called Hamid Al Wani, who owned a café in Uppsala, told him that he was a member of the PFLP-GC. We should also record that when Abo Talb's house was searched by police following his arrest in 1989 a barometric device was found. Abo Talb in his evidence said that that belonged to his brother-in-law Mahmud Al Mougrabi, who lived in the same house.

[78] Abo Talb gave evidence concerning a number of journeys to various Mediterranean and European countries in the course of the period between the time he was granted right of residence in Sweden and given a Swedish travel document (1984/5) and 1988. He went on a number of occasions to Cyprus where he met other Arabs and relations of his wife. One particular trip was in October 1988. A

somewhat strange set of circumstances led him from there to Malta. He was in Malta from 19 October to 26 October 1988 as in effect the guest of Abd El Salam (who is named in the Schedule to the Notice), initially staying at his flat and then in a nearby hotel. Abd El Salam was also known as Abu Nada and his flat in Malta was owned by the Palestine Liberation Organisation. While in Malta Abo Talb said he spent his time with Abd El Salam at the bakery business of which he was a director. This was known as the Miska Bakery, but Abo Talb denied that he knew it by that name and he said that he did not know any of the persons named in the Schedule to the Notice as former directors of the Miska Bakery. He did, however, meet Abd El Salam's brother, Hashem Salem, while he was in Malta and agreed to take some of his clothing merchandise back to Sweden with him to see if he could find sales outlets for it. That came to nothing and the clothing was later found by the police in Abo Talb's home.

[79] When Abo Talb left Malta on 26 October he flew to Sweden on an open return ticket to Stockholm, valid for one month. He explained that Abd El Salam had bought the ticket for him and that it had been a return ticket because that was cheaper than a single. He had no intention of returning to Malta and did not do so. He gave evidence that on 10 November 1988 he visited the Ministry of Labour in Stockholm in connection with his application for Swedish nationality, and on 5 December he consulted a solicitor in connection with the theft of his car, and there was some other evidence which might support that. On 9 December and 16 December he attended for medical treatment in Uppsala. These two appointments were agreed in Joint Minute 11. It was also agreed in that Joint Minute that shortly after midnight on 22 December 1988 his wife's sister gave birth in Uppsala to a child, and Abo Talb said

that he was at home looking after his own children at that time. On this evidence, there is some support for Abo Talb when he said that he remained in Sweden and did not return to Malta after 26 October 1988. He did accept, however, that during that period he was in contact with Abd El Salam both by telephone and by post.

[80] As we have said, none of the other persons mentioned in the Schedule to the Notice gave evidence, but certain facts about them and their activities were agreed in Joint Minute 11. These, however, do not in our opinion add anything of significance.

[81] Having considered the evidence concerning these matters and the submissions of counsel we accept that there is a great deal of suspicion as to the actings of Abo Talb and his circle, but there is no evidence to indicate that they had either the means or the intention to destroy a civil aircraft in December 1988.

[82] From the evidence which we have discussed so far, we are satisfied that it has been proved that the primary suitcase containing the explosive device was dispatched from Malta, passed through Frankfurt and was loaded onto PA103 at Heathrow. It is, as we have said, clear that with one exception the clothing in the primary suitcase was the clothing purchased in Mr Gauci's shop on 7 December 1988. The purchaser was, on Mr Gauci's evidence, a Libyan. The trigger for the explosion was an MST-13 timer of the single solder mask variety. A substantial quantity of such timers had been supplied to Libya. We cannot say that it is impossible that the clothing might have been taken from Malta, united somewhere with a timer from some source other than Libya and introduced into the airline baggage system at Frankfurt or Heathrow. When, however, the evidence regarding the clothing, the purchaser and the timer is

taken with the evidence that an unaccompanied bag was taken from KM180 to PA103A, the inference that that was the primary suitcase becomes, in our view, irresistible. As we have also said, the absence of an explanation as to how the suitcase was taken into the system at Luqa is a major difficulty for the Crown case but after taking full account of that difficulty, we remain of the view that the primary suitcase began its journey at Luqa. The clear inference which we draw from this evidence is that the conception, planning and execution of the plot which led to the planting of the explosive device was of Libyan origin. While no doubt organisations such as the PFLP-GC and the PPSF were also engaged in terrorist activities during the same period, we are satisfied that there was no evidence from which we could infer that they were involved in this particular act of terrorism, and the evidence relating to their activities does not create a reasonable doubt in our minds about the Libyan origin of this crime.

[83] In that context we turn to consider the evidence which could be regarded as implicating either or both of the accused, bearing in mind that the evidence against each of them has to be considered separately, and that before either could be convicted we would have to be satisfied beyond reasonable doubt as to his guilt and that evidence from a single source would be insufficient.

[84] We deal first with the second accused. The principal piece of evidence against him comes from two entries in his 1988 diary. This was recovered in April 1991 from the offices of Medtours, a company which had been set up by the second accused and Mr Vassallo. At the back of the diary there were two pages of numbered notes. The fourteenth item on one page is translated as "Take/collect tags from the airport

(Abdulbaset/Abdussalam)". The word 'tags' was written in English, the remainder in Arabic. On the diary page for 15 December there was an entry, preceded by an asterisk, "Take taggs from Air Malta", and at the end of that entry in a different coloured ink "OK". Again the word 'taggs' (sic) was in English. The Crown maintained that the inference to be drawn from these entries was that the second accused had obtained Air Malta interline tags for the first accused, and that as an airline employee he must have known that the only purpose for which they would be required was to enable an unaccompanied bag to be placed on an aircraft. From another entry on 15 December (translated as "Abdel-baset arriving from Zurich") it appears that the second accused expected the first accused to pass through Malta on that day. In fact the first accused passed through on 17 December and missed seeing the second accused. In his interview with Mr Salinger in November 1991, the second accused said that he had been informed by his partner Mr Vassallo that the first accused had spoken to him and asked him to tell the second accused that he wanted to commission him with something. On 18 December the second accused travelled to Tripoli. He returned on 20 December on the same flight as the first accused. The Crown maintained that the inference to be drawn from this was that on that date the first accused was bringing component parts of the explosive device into Malta, and required the company of the second accused to carry the suitcase through Customs as the second accused was well known to the customs officers who would be unlikely to stop him and search the case. This would be consistent with the evidence of Abdul Majid. Finally the Crown maintained that in order for the suitcase to get past the security checks at Luqa on 21 December and find its way on board KM180, someone would have to organise this who was very well acquainted with the security controls at Luqa and would know how these controls could be circumvented. As someone

who had been a station manager for some years, the second accused was ideally fitted for this role. Further, there was a telephone call recorded from the Holiday Inn, where the first accused was staying, to the number of the second accused's flat at 7.11am on 21 December. The Crown argued that this could be inferred to be a call arranging for the second accused to give the first accused a lift to the airport, and also it could be inferred that the second accused was at the airport from the fact that the first accused received special treatment both at check-in and at immigration control before departing on the LN147 flight to Tripoli.

[85] There is no doubt that the second accused did make the entries in the diary to which we have referred. In the context of the explosive device being placed on KM180 at Luqa in a suitcase which must have had attached to it an interline tag to enable it to pass eventually on to PA103, these entries can easily be seen to have a sinister connotation, particularly in the complete absence of any form of explanation. Counsel for the second accused argued that even if it be accepted that the second accused did obtain tags and did supply them to the first accused, it would be going too far to infer that he was necessarily aware that they were to be used for the purpose of blowing up an aircraft, bearing in mind that the Crown no longer suggest that the second accused was a member of the Libyan Intelligence Service. Had it been necessary to resolve this matter, we would have found it a difficult problem. For the reasons we are about to explain however we do not find it necessary to do so. The Crown attach significance to the visit by the second accused to Tripoli on 18 December 1988 and his return two days later in the company of the first accused. As we have indicated, we cannot accept the evidence of Abdul Majid that he saw the two accused arriving with a suitcase. It follows that there is no evidence that either of

them had any luggage, let alone a brown Samsonite suitcase. Whatever else may have been the purpose of the second accused going to Tripoli, it is unlikely that his visit was to hand over tags, as this could easily have been done in Malta. We do not think it proper to draw the inference that the second accused went to Tripoli for the purpose, as the Crown suggested, of escorting the first accused through Customs at Luqa. There is no real foundation for this supposition, and we would regard it as speculation rather than inference. The position on this aspect therefore is that the purpose of the visit by the second accused to Tripoli is simply unknown, and while there may be a substantial element of suspicion, it cannot be elevated beyond the realm of suspicion. The Crown may be well founded in saying that the second accused would be aware of the security arrangements at Luqa, and therefore might have been aware of some way in which these arrangements could be circumvented. The Crown however go further and say that it was the second accused "who was in a position to and did render the final assistance in terms of introduction of the bag by whatever means". There is no evidence in our opinion which can be used to justify this proposition and therefore at best it must be in the realm of speculation. Furthermore, there is the formidable objection that there is no evidence at all to suggest that the second accused was even at Luqa airport on 21 December. There were a number of witnesses who were there that day who knew the second accused well, such as Abdul Majid and Anna Attard, and they were not even asked about the second accused's presence. The Crown suggestion that the brief telephone call to the second accused's flat on the morning of 21 December can by a series of inferences lead to the conclusion that he was at the airport is in our opinion wholly speculative. While therefore there may well be a sinister inference to be drawn from the diary entries, we have come to the conclusion that there is insufficient other acceptable evidence to support or confirm such an

inference, in particular an inference that the second accused was aware that any assistance he was giving to the first accused was in connection with a plan to destroy an aircraft by the planting of an explosive device. There is therefore in our opinion insufficient corroboration for any adverse inference that might be drawn from the diary entries. In these circumstances the second accused falls to be acquitted.

[86] We now turn to the case against the first accused. We should make it clear at the outset that the entries in the second accused's diary can form no part of any case against the first accused. The entries fall to be treated as equivalent to a statement made by a co-accused outwith the presence of the first accused. If both accused had been proved by other evidence to have been acting in concert in the commission of the crime libelled, then these entries could perhaps have been used as general evidence in the case as against any person proved to have been acting in concert. As we are of opinion however that it has not been proved that the second accused was a party to this crime, it follows that the normal rule must apply and the entries cannot be used against the first accused. We therefore put that matter entirely out of our minds.

[87] On 15 June 1987 the first accused was issued with a passport with an expiry date of 14 June 1991 by the Libyan passport authority at the request of the ESO who supplied the details to be included. The name on the passport was Ahmed Khalifa Abdusamad. Such a passport was known as a coded passport. There was no evidence as to why this passport was issued to him. It was used by the first accused on a visit to Nigeria in August 1987, returning to Tripoli via Zurich and Malta, travelling at least between Zurich and Tripoli on the same flights as Nassr Ashur who was also travelling on a coded passport. It was also used during 1987 for visits to Ethiopia,

Saudi Arabia and Cyprus. The only use of this passport in 1988 was for an overnight visit to Malta on 20/21 December, and it was never used again. On that visit he arrived in Malta on flight KM231 about 5.30pm. He stayed overnight in the Holiday Inn, Sliema, using the name Abdusamad. He left on 21 December on flight LN147, scheduled to leave at 10.20am. The first accused travelled on his own passport in his own name on a number of occasions in 1988, particularly to Malta on 7 December where he stayed until 9 December when he departed for Prague, returning to Tripoli via Zurich and Malta on 16/17 December.

[88] A major factor in the case against the first accused is the identification evidence of Mr Gauci. For the reasons we have already given, we accept the reliability of Mr Gauci on this matter, while recognising that this is not an unequivocal identification. From his evidence it could be inferred that the first accused was the person who bought the clothing which surrounded the explosive device. We have already accepted that the date of purchase of the clothing was 7 December 1988, and on that day the first accused arrived in Malta where he stayed until 9 December. He was staying at the Holiday Inn, Sliema, which is close to Mary's House. If he was the purchaser of this miscellaneous collection of garments, it is not difficult to infer that he must have been aware of the purpose for which they were being bought. We accept the evidence that he was a member of the JSO, occupying posts of fairly high rank. One of these posts was head of airline security, from which it could be inferred that he would be aware at least in general terms of the nature of security precautions at airports from or to which LAA operated. He also appears to have been involved in military procurement. He was involved with Mr Bollier, albeit not specifically in connection with MST timers, and had along with

Badri Hassan formed a company which leased premises from MEBO and intended to do business with MEBO. In his interview with Mr Salinger he denied any connection with MEBO, but we do not accept his denial. On 20 December 1988 he entered Malta using his passport in the name of Abdusamad. There is no apparent reason for this visit, so far as the evidence discloses. All that was revealed by acceptable evidence was that the first accused and the second accused together paid a brief visit to the house of Mr Vassallo at some time in the evening, and that the first accused made or attempted to make a phone call to the second accused at 7.11am the following morning. It is possible to infer that this visit under a false name the night before the explosive device was planted at Luqa, followed by his departure for Tripoli the following morning at or about the time the device must have been planted, was a visit connected with the planting of the device. Had there been any innocent explanation for this visit, obviously this inference could not be drawn. The only explanation that appeared in the evidence was contained in his interview with Mr Salinger, when he denied visiting Malta at that time and denied using the name Abdusamad or having had a passport in that name. Again, we do not accept his denial.

[89] We are aware that in relation to certain aspects of the case there are a number of uncertainties and qualifications. We are also aware that there is a danger that by selecting parts of the evidence which seem to fit together and ignoring parts which

transmission of an item of baggage from Malta to London, the identification of the first accused (albeit not absolute), his movements under a false name at or around the material time, and the other background circumstances such as his association with Mr Bollier and with members of the JSO or Libyan military who purchased MST-13 timers, does fit together to form a real and convincing pattern. There is nothing in the evidence which leaves us with any reasonable doubt as to the guilt of the first accused, and accordingly we find him guilty of the remaining charge in the Indictment as amended.

[90] The verdicts returned were by a unanimous decision of the three judges of the Court.